The Soybean Digest

—photo by A. K. Smith

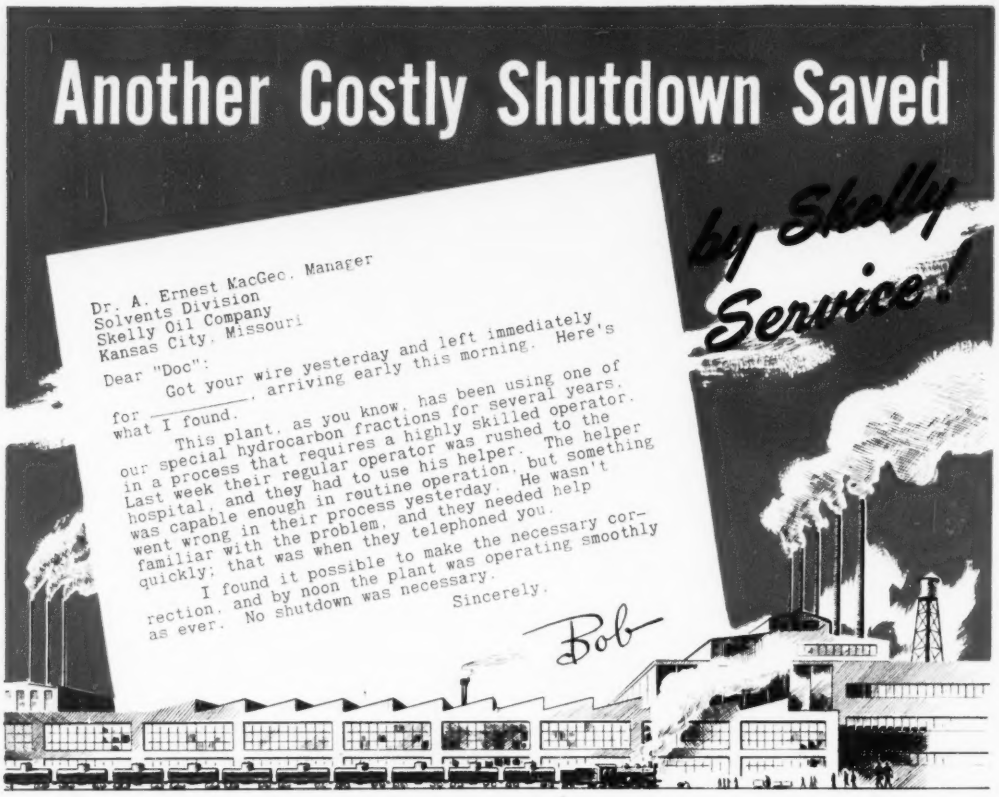
Girl sells soy sprouts in Canton, China. See page 15.

Official Publication

AMERICAN SOYBEAN ASSOCIATION

VOLUME 9 • NUMBER 4 FEBRUARY • 1949

Another Costly Shutdown Saved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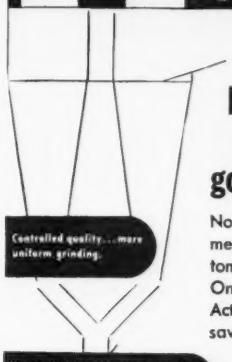
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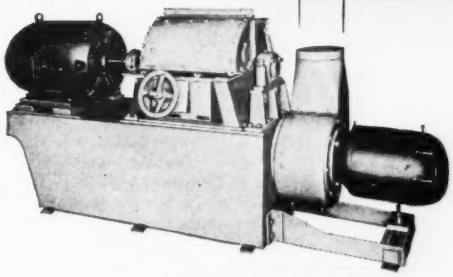

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EDITOR'S DESK

AT THE GRASS ROOTS

One of the very apparent needs of the soybean industry is a large group of informed men scattered over the production belt who can and will be in position to jump to the defense of the crop and the industry when needed. For a period of years the American Soybean Association has been guided by a relatively small group of men—men who had the knowledge, the contacts, the time, and who could devote effort to the betterment of the industry. They have been extremely effective. They have given unstintingly of their capacities and their influences. No industry has profited more by the sacrifies of a few.

There have been many times, however, when it was highly important to have reserve forces to call upon. The industry and the American Soybean Association need a large group of well informed, active, influential men who, on a moment's notice, can jump into the job at hand and do it quickly and effectively.

The training schools planned for Ohio, described elsewhere in this issue, are a big step in the right direction. Benefiting by the experience there, we need similar programs in other states. Out of the series will come a group of men ready and informed to the point where they can truly represent the growers of soybeans on problems of legislation, education and promotion.

SHOULD REMOVE CONTROLS

Hearings on the administration sponsored bills to extend the present export controls beyond the present February 28 deadline were held by both the Senate and House banking and currency committee starting February 1. Secretary Strayer testified before both bodies, advocating that because of the present plentiful supplies of edible fats and oils the exports to Western Hemisphere countries and to countries participating in ECA should be decontrolled. The second proposal was that in case complete decontrol proved impractical, complete authority for determination of surplus in agricultural commodities should be transferred to the Secretary of Agriculture, rather than resting in the hands of the Secretary of Commerce as at present.

Representatives of all phases of the cotton and cottonseed industry, the meat packers, the renderers and the soybean producers were present. Conspicuous by its absence at these important hearings was representation from the processors of soybeans. Actually, they have as much or more at stake than the growers. If exports continue to be squeezed down, the farmer can and will grow other crops. The processor has expended funds for plants and equipment. If soybean acreage goes down because comparative prices are unfavorable, processing plants will be idled.

Opinion on what will be done is divided at this writing. It seems agreed that if attempts to get complete decontrol of exports of fats and oils and oilseeds are not successful the authority for determination of surplus will be given to Agriculture. It should have been there all the time.

DAIRY LEADERSHIP CHANGES---BUT TOO LATE

Hearings on the margarine bills which have been introduced in this session will be opened by the committee on agriculture of the House of Representatives March 1, according to word released by Congressman Harold Cooley, chairman of the committee. Considered, according to the announcement, will be only those bills already introduced, and testimony will be limited to that of the Congressmen introducing the bills.

Present tactics of the opposition leadership, changed after 62 years of stubborn resistance, include the open admission that margarine taxes are discriminatory. Offer to consent to their repeal is admission that through the years they have been wrong, that they have fleeced the consumer and tried to hold down the consumption of competitive products through methods of taxation never tried on any other American commodity. Their stand, of course, will be that they will give up the benefit of taxation so long as it will be made illegal to manufacture or sell yellow margarine.

Actually—the logic of this proposal is just about as good as their original—neither will stand up under the pressure of intelligent public opinion. Tax-free margarine colored yellow is coming in spite of everything the opponents can do. It will mean an expanded market for soybean oil—and a high value usage which is quite essential.

NEED ACTION TO BOLSTER SOYBEAN PRICES

Like all fats and oils, soybean oil prices have hit the skids. Participation in the purchase agreement program of CCC expired on December 31. Almost the next day soybean oil prices started to skid downward, and have continued in that direction nearly every day since.

Soybeans are now selling at and below the support price of beans stored on farms—$2.31 per bushel for low moisture beans. Commodity Credit Corporation has the power to reopen the purchase agreement program, make it possible for more growers to place their beans therein, assuring themselves of the support price.

It appears to your editors that Department of Agriculture officials should do one of two things immediately:

1. Place fats and oils on general license or decontrol them entirely.

2. Reopen the purchase agreement program on soybeans, make the support price available to more than the less than 6 percent of the growers who participated earlier.

DIGEST ADOPTS NEW TYPE DRESS

From now on you should be able to read the *Digest* with greater ease. Beginning with this issue it will be set in 10-point Bodoni type instead of in 8-point as in the past.

For some time your editors have been torn between the desire to pack as much information as possible between the *Digest* covers, and making your magazine as readable as possible. We have always had more copy than we could squeeze in, even in the smaller type.

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ACTIVITIES OF YOUR ASSOCIATION

ASA TO HOLD OHIO TRAINING SCHOOLS

A series of American Soybean Association program training schools has been scheduled for February 16, 17 and 18 in Ohio.

Officers and employees of the American Soybean Association will be in charge.

The schools are scheduled as follows:

February 16—Bowling Green.

February 17—Van Wert, Marsh school auditorium.

February 18—Kenton.

The training school at Van Wert will be part of the 10th annual Soybean Roundup to be held there on that date.

The meetings are expected to be the first of a series to be held eventually in all leading soybean-growing areas to familiarize growers with the Association program. Association officers and directors have felt for some time the need for a large number of soybean producers to be familiar with the background, the aims and the activities of the Association.

These training schools will be an attempt to take the Association story direct to producers in each community and to build its strength where it belongs, at the grass-roots.

Some well known speakers on soybeans have agreed to take part in the meetings. Complete program of the Van Wert Soybean Roundup is published elsewhere in this issue.

The first meetings are being held in the heavy-soybean-producing area of northeast Ohio where soybeans have pushed to the front in the agricultural scheme of things. Paulding County is an example. Soybeans were by far the leading source of farm income there in 1947, according to County Agent Walter Barrett. They accounted for over 30 percent of the farm income in Paulding County. This compares with 15 percent of the county's income from hogs, 14 percent from dairy products, 11 percent from poultry, 10 percent from wheat and 8 percent from cotton.

This part of Ohio with its accent on soybeans and growing dependence on the margarine and shortening markets is generating steam for repeal of margarine restrictions. Many producers in the area are back of margarine repeal bills that have been introduced in the Ohio legislature. Paul C. Hughes, field service director of the American Soybean Association, has been assisting in the repeal drive in that area during the past month.

ASK END OF OIL CONTROL

The American Soybean Association has suggested to the Senate banking and currency committee that export controls over soybeans and soy products be ended with the expiration of the present act February 28.

The Truman administration has asked for renewal of export controls, including those on soybeans, through June 30, 1950. Hearings on the Maybank Bill, known as S-548, began January 28. Secretary Geo. M. Strayer appeared before the Senate banking and currency committee February 1 to protest the inclusion of fats and oils and oilseeds in the list of commodities on which export controls are to be extended.

"American soybean oil is the cheapest edible oil to be found any place in the world today," Strayer said in a press release issued the day the hearings opened.

"It is our feeling that at a time when the greatest food needs of European countries, as well as some of the countries of the Western Hemisphere, are edible fats and proteins, we should not be allowing soybeans, cottonseed, lard and other edible fats to be begging as surplus commodities in this country. Removal of export controls on fats and oils would re-

See page 50 for names that have been suggested for the little man, then let us have yours. We can't put off naming him much longer.

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lieve the surpluses in this country, provide other countries with a much-needed source of supply."

Representatives of the American Farm Bureau Federation, the cottonseed industry, the meat-packing industry, and many other fats and oils groups cooperated in appearances before the Senate banking and currency committee in an appeal to remove fats and oils from the export control extensions. Since domestic edible oils are so interchangeable in usage and interdependent in price, it is expected that controls will be either extended or dropped on the entire group.

Under the present Export Control bill the Secretary of Commerce has final veto power on all export allocations. During recent months Secretary Sawyer has refused to honor export allocations recommended by the Secretary of Agriculture, and has been responsible for the build-up of surplus supplies of many agricultural commodities, including fats and oils, according to Strayer. In an effort to keep agricultural prices in line with manufactured goods, the Secretary of Agriculture has repeatedly recommended sizable allocations. With final veto power, Secretary of Commerce Sawyer has refused or deferred action, until prices being paid to farmers on soybeans, cottonseed, lard and similar products are completely out of their normal relationships to other food commodities.

"The American Soybean Association is requesting, first, that fats and oils and oilseeds be removed entirely from export controls," said Strayer. "If that does not seem feasible to the members of the banking and currency committee, our second recommendation is that the final veto power now resting with the Secretary of Commerce be curbed, and that the Secretary of Agriculture have final authority on the export of agricultural commodities, including fats and oils.

"It is just as logical that the Secretary of Agriculture have final veto power on the export of steel, aluminum, electrical goods, automobiles and other items the farmer buys, as for the Secretary of Commerce to retain veto power on agricultural commodities. The nation would rebel at such an arrangement. The producers of fats and oils are rebelling at the present veto power vested in a Secretary of Commerce whose major aim seems that of forcing cheap food prices, regardless of the over-all consequences," said Strayer.

BREAK ILLINOIS, INDIANA YIELD RECORDS

All-time soybean yield contest records were smashed in Indiana and Illinois last year, reports show.

Aden Danielson, Leland, set a new per-bushel record in Illinois—54.2 bushels. Fred E. Phillips, of Arthur, held the previous record, 52.9, set in 1942.

George Shell, Anderson, hung up a new Indiana yield record of 56 bushels per acre.

Aden Danielson, Leland, LaSalle County, won the 8th annual Illinois 10-acre soybean growing contest with a total score of 88.94 out of a possible 100, the Illinois Crop Improvement Association reports.

Danielson's score was under that of last year's champion, William Feldott, Plainfield, who scored 95.37. But the yield on his entry, a field of Hawkeyes, was 54.2 bushels per acre, the highest on record in an Illinois yield contest. Feldott's yield in 1947 was 42.84 bushels per acre.

The Illinois contest scores on yield, cost of production, quality of grain and oil content in the following percentages: 40, 25, 15 and 20 respectively.

Second place winner was Verle Steele, Table Grove, with a total score of 87.47 and a yield of 50.03 bushels per acre. Steele was Illinois yield champion in 1946 with a bushel yield of 46.43, lower than his yield this year. He was also runnerup in 1947. Third place winner was Loren E. Siverly, Gladstone, with a score of 87.12 and a yield of 41.76 bushels. Fourth place winner was Bert Bonwell, Chrisman, with a score of 82.28 and a yield of 41.86 bushels.

Danielson was also winner of the Gulf, Mobile & Ohio Railroad Co. trophy awarded to the high contestant living in a county served by the railroad. He will retain possession of the trophy for 1 year. Second and third place winners were L. Parke Kerbaugh, Stanford, and H. L. Stiegelmeier, Normal. Stiegelmeier earlier won the reserve championship at the Illinois Grain & Hay Show, Chicago, with his Hawkeye soybeans.

Champion Danielson grew his Hawkeyes in a field that had been in alfalfa the 2 years previously, and oats the year before that. One ton of rock phosphate was applied the preceding September. 2 tons of ground agricultural limestone in February, and 100 pounds of 3-12-12 were applied with the planter in May.

He planted in 40-inch rows with

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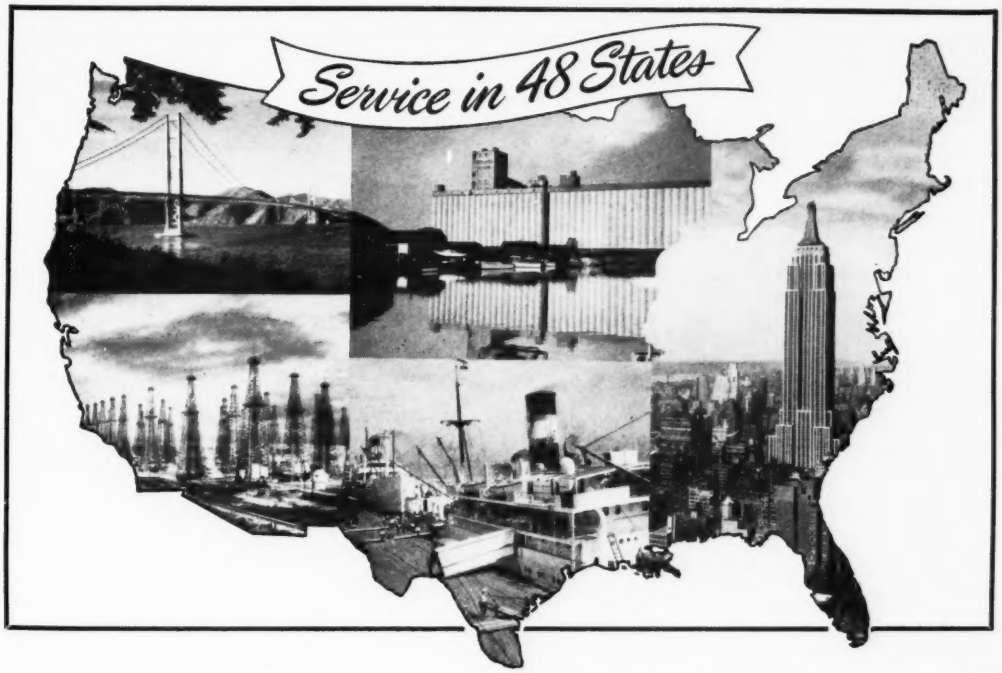

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a corn planter, with from 4 to 6 inches between plants in the row. The field was dusted by airplane with chlordane dust to control grasshoppers. After plowing, the field was disked twice, harrowed twice, rolled once, rotary hoed once, and cultivated three times. Five days were spent pulling velvet weeds out of the 26-acre field.

Iowa Contest

Leo Mortenson, Spencer, Iowa, soybean producer, was first place winner in the Iowa Master Soybean Growers Contest for 1948.

Mortenson was awarded first place money, the title of Iowa master soybean grower and the John Sand trophy at the meeting of the Iowa Corn and Small Grain Growers Association at Ames during Farm and Home week February 14.

Mortenson won the contest with 5 acres of Earlyana soybeans that averaged 49.55 bushels per acre. This was the highest yield of any Iowa contestant in 1948, and well above the record of W. N. Moore of Iowa Falls in 1947. But it was somewhat below the all-time Iowa record of 52.26 bushels set by John Knudson of Albion in 1946.

This was the first time a field of Earlyana won in the Iowa contest.

Second place was won by Klein Bros., Keota, with a field of Lincolns averaging 48.76 bushels per acre. Third place went to E. H. Gaard, Early, who also entered Lincolns. They average 47.71 bushels per acre.

Other district winners and their yields: Bruce Monson, Armstrong, 33.81 bu.; Homer T. Wakefield, Alden, 38.21 bu.; Ira Studebaker, Balmond, 32.87 bu.; Raymond Good, Boone, 38.92 bu.; Lester J. Vos, Altoona, 41.94 bu.; Orville Henry, Earlham, 35.35 bu.; Nick Terpstra & Son, New Sharon, 40.64 bu.; Carl Carlson, Mt. Pleasant, 41.97 bu.

In Indiana

Geo. M. Shell, Anderson, won the Indiana soybean yield contest with his 2-acre field of Lincolns that averaged 56 bushels per acre, announces K. E. Beeson, secretary-treasurer of the Indiana Corn Growers Association, Lafayette.

Shell toppled the state yield record of 55.5 set by Herman Barrett in 1947. This is the second time that Shell has broken the state yield record. He also set a record when he won the Indiana championship in 1946 with Lincolns averaging 55 bushels per acre.

Shell planted in 37-inch rows in 1948.

Leonard A. Metzinger, Fowler, was 1948 second place winner, with Lincolns that averaged 49.7 bushels per acre planted in 40-inch rows. Third place winner was Robert McCallister, Earl Park, with Lincolns averaging 49.5 bushels in 40-inch rows. Fourth place winner was Henry Preiser, Galveston, with Lincolns in 40-inch rows averaging 48.8 bushels.

Ninety-six growers entered the Indiana contest in 1948. Nineteen of them produced 44.5 or more bushels per acre. Of this top 19, 16 grew Lincolns, 2 Hawkeyes and 1 Gibson.

Missouri Program

Lawrence McRoberts, Malta Bend, Saline County producer, was winner of the 1948 Missouri Soybean Achievement Program, A. F. Stephens, agricultural agent for the Gulf, Mobile & Ohio Railroad Co., announces.

McRoberts won with a field of Lincolns that yielded 48.4 bushels per acre on the 10 acres entered in the contest, and 45.6 on the entire field of 40 acres.

This is the first time McRoberts has won the Missouri contest, but the third time the farm he operates has placed first. He operates the farm belonging to Harry Plattner of Malta Bend; and Plattner won the Missouri yield contest in 1943 and 1947.

Twenty-nine Missouri producers qualified for medals last year compared with only one in 1947. Audrain County growers led with 16 medals. They will be honored by the Mexico, Mo., Rotary Club at a dinner March 11.

Medal winners and their yields:

Audrain County, gold (30 bushels or more on 10 acres): Ted Stansberry, 35.3 bu.; Clyde Shoup, 30 bu.; F. C. Brakel, 35 bu.; James Shaw 33.5 bu.; J. R. Paradies 34 bu. Silver: Lawrence Davis, 29 bu.; F. L. Doebelin, 25.5 bu.; Carver Brown, 29 bu.; Floyd Chrisman 26.6 bu.; E. M. Anderson 25 bu.; W. J. Fennewald 25 bu.; C. E. Davis 26 bu.; Elmer Foree 27 bu.; Edgar Conklin 25.4 bu.; Clayton Brown 26 bu.; G. B. Kemna 29.5 bu.

Pike County, gold: Ray Bolomey 39 bu. Silver, P. E. Rosenburg 26.3 bu.; Chas. Anderson 26 bu.; J. V. Ince 27.9 bu.

Saline County, gold: Lawrence McRoberts 48.4 bu.; A. C. Gauldin 35.1 bu.

Boone County, silver: H. C. Weitkemper 27 bu.

Ralls County, gold: John C. Briscoe 31.5 bu.; Paul D. Evans 37.2 bu. Silver: Dyas Keith 28 bu.

Randolph County, gold: R. M. Edwards 35 bu.; R. B. Jeffries 32 bu.; Carl Willman 31 bu.

The medals will be awarded at the annual county soils and crops conferences with the exception of Audrain County.

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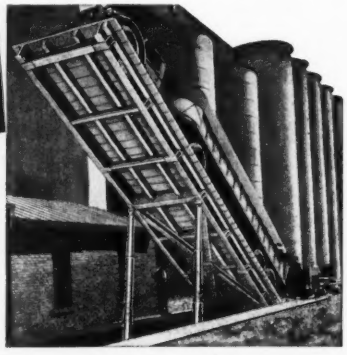

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One elevator reports unloading over 1,000,000 bu. of grain in one month's operation with a two man crew, averaging over 100 trucks each working day.

Every Trucker and Grower is a booster. They appreciate "no long waiting in line" in busy harvest seasons and they tell others. It attracts new customers and builds your business.

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Quality is a term that is often used broadly, casually. In the case of Chase, quality means more efficient, more economical, and more attractive containers for your products. And here's why:

Chase has been manufacturing bags for more than 100 years—and every year has marked some important improvement: in construction, in design, in printing, or in packaging technique!

Result: you get dependability, positive protection, and you get double-barreled satisfaction, too: 1) when your product is shipped, 2) when your product is received.

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POOR HANDLING CAUSED LOW GERMINATION

Rough treatment either by improper settings of combines or rough handling after threshing has produced an Iowa crop of soybean seed somewhat lower in germination than expected, according to C. R. Weber, agronomist at the Iowa Agricultural Experiment Station.

He reports that this is showing up in soybeans produced by certified seed growers in 1948. In many cases the seed germinates too poorly to carry the certified blue tag. Certified blue tag requirements are for 87 percent germination.

Explanation of the low germination is in the high percentage of injured whole seeds. Tests run at the Iowa State College Seed Testing Laboratory show that many of the whole seeds have injured seed coats. While they are live seeds, they won't produce a sprout with enough stamina to grow into a normal healthy plant.

While the tests were with Hawkeye beans, Weber says that seed of Lincoln and Earlyana in Iowa are germinating somewhat lower than expected, too. He believes that all varieties subjected to treatment rough enough to crack seed coats will show up the same way.

Farmers having soybean seed on hand are urged by the agronomist to have it tested at the laboratory. Known low germination can be compensated for by increased seeding rates. He recommends the laboratory test because it counts as good seed only that which will produce normal plants in the field. A farmer usually will count abnormal sprouts produced by injured seeds as good ones.

Looking ahead to next fall, Weber points out that the extent of damage to soybeans through the abrasive action during combining can be controlled by proper adjustment of the machine. Either reducing cylinder speed, lowering or removal of concaves, or removal of some of the cylinder bars, along with proper handling during cleaning operations, will cut down damage.

Hawkeyes Available

Seed of Hawkeye and other varieties is available and can be bought at reasonable prices, according to observers.

Indiana and Illinois growers have been free to sell Hawkeye seed outside their own counties and their own states since January 15.

The *Soybean Digest* is publishing its annual seed directory beginning with this issue. It will also appear in March and April. See page 43. Hawkeye seed available as well as other varieties is listed there.

Those who wish to obtain Hawkeye seed should write to the producers listed in this directory. Or contact your county seed distribution committee.

J. C. Hackleman, extension agronomist with the University of Illinois College of Agriculture, says that 50,000 bushels is the amount of Hawkeye seed now available in Illinois.

Germination tests indicate that nine-tenths of the samples are showing a germination of 90 percent or better, which incidentally meets blue-tag certification standards.

Hackleman says the price of Hawkeyes varies widely among counties. The ceiling price is $6 a bushel.

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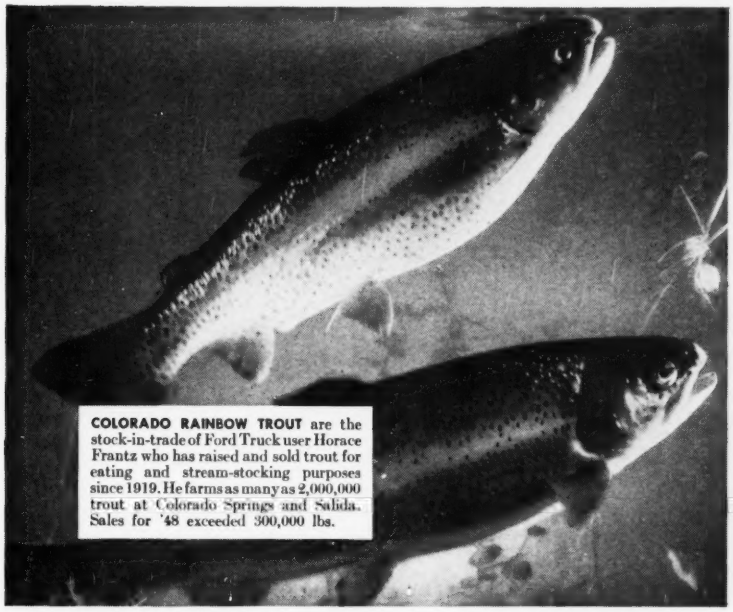
BROKERS TO THE SOYBEAN PROCESSOR

HORACE FRANTZ'S *Smart idea!*

It brought him a pot of gold at the end of rainbows . . . millions of 'em!



COLORADO RAINBOW TROUT are the stock-in-trade of Ford Truck user Horace Frantz who has raised and sold trout for eating and stream-stocking purposes since 1919. He farms as many as 2,000,000 trout at Colorado Springs and Salida. Sales for '48 exceeded 300,000 lbs.

TO KEEP TROUT healthy, water must be kept charged with fresh oxygen. Frantz cascades it down steps, sprays it from overhead, to keep it fresh.

"SPRING WATER temperature in rearing runways never goes below 50 or above 52 degrees," Horace Frantz (above) says. Hatching period is 4 to 6 weeks; "harvest" in 1½ years.

HORACE FRANTZ'S *Smart move!*

He uses Ford Bonus Built Trucks to do the hauling in his business!

NEW MODEL F-5 FORD TRUCK with platform body is used in a demonstration test at feeding time by Ford Dealer, Bob Allphin. Says Frantz, "My old Ford feed truck has 175,000 miles on it, but I'll bet the new F-5 could beat that." "That's a smart bet, Horace," replies Bob, "Ford Trucks are Bonus Built to take almost anything these mountain roads can give them. Every one of over 139 models is built extra strong to last longer."

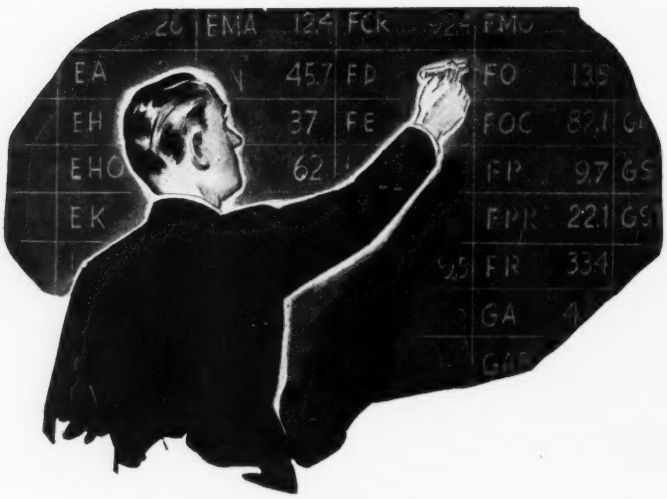
"DON'T LOOK now," says Ford Dealer Bob Allphin, "but under this cab is something no other truck has! Ford exclusive Level Action suspension insulates against frame weave, smooths out the ride, prolongs cab life."

"ONE OF THE BIG THINGS about Ford Truck engines is their reliability," says Frantz. "That's mighty important to me, too, because in transporting live trout, a few minutes delay might mean loss of the entire load."

HORACE FRANTZ'S *Smart bet!*

FORD TRUCKS LAST LONGER!

Using latest registration data on 5,444,000 trucks, life insurance experts prove Ford trucks last longer!



EXPELLERS* *are indispensable when markets fluctuate*

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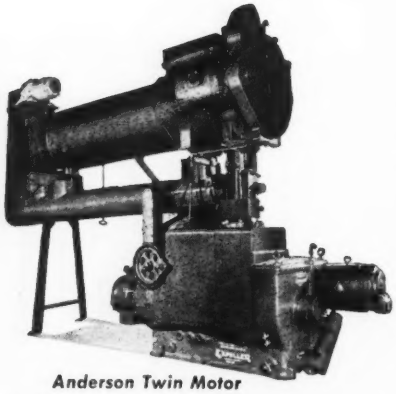

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EXPELLERS AND SOLVENT EXTRACTION EQUIPMENT

ORIENTAL USE OF SOYBEANS AS FOOD

With Special Attention to Farming Practices

Cultivating soybeans near Nanking, China (July 11, 1948). All workers but one are women.

NOTES ON ORIENTAL FARMING PRACTICES

I. CHINA

By ALLAN K. SMITH

Northern Regional Research Laboratory[1] Peoria, Illinois

ON A VISIT to China, Japan, and Korea during the summer of 1948, the author as a representative of the Northern Regional Research Laboratory was given the opportunity of studying the methods of Oriental people in using soybeans as food and to collect microorganisms used in fermenting soybeans and other fermentable products. Soil samples, as a source of new organisms were collected for the fermentation division of the Northern Laboratory, and soybean seed samples for the Bureau of Plant Industry, Soils, and Agricultural Engineering.

This trip also afforded the author an opportunity to glimpse the customs and food habits of people who, because of their high density of population, have been forced to a vegetarian diet for centuries. The localities visited were Shanghai, Peiping, Tientsin, Nanking, Hangchow, and Canton in China; Tokyo and vicinity in Japan; Seoul and Cheuju Do in Korea.

Information was sought from universities, experiment stations, oil processing companies, small and large food producing plants, and officials of the American Consulates General. Much of the information was obtained through the intermediate assistance of an interpreter.

The report deals separately with China, Japan, and Korea. Under China it includes the subjects of farming conditions, oilseed production, soy sauce, soybean or vegetable milk, soybean curd, soybean cheese, fermented soybeans, fen-t'iao from mung beans, vinegar fermentation process, and contacts and conferences. The Japanese section deals with Japanese agriculture with special reference to soybeans, production of miso in Japan, soy sauce, monosodium glutamate, and trends in soy sauce production. Korean agriculture and soybean food products are also discussed in collaboration with Dr. Raymond Culbertson, an agricultural advisor to the newly formed Korean government.

Since the subject matter for each process was gathered from several sources, no attempt was made to specifically credit the source of the material. The agencies previously indicated sought out small food processing plants and made advance arrangements for inspection of their operation. The Chinese students who had visited our Laboratory were anxious to show appreciation for favors granted to them while in America, and they extended to me the well-known courtesy and hospitality which is traditional of China.

In Japan, the natural resources and the food processing sections of the Supreme Command of the Allied Powers furnished guidance and transportation in seeking information. In Korea, a similar service was furnished by the Department of Agriculture and the Office of Proper-

● *Dr. Smith consented to write a series of articles on soy food in the Orient after his return from China and Korea last fall. They should greatly broaden American knowledge of soybeans in Asia. This is the first of the series. Illustrations are by Dr. Smith, also this month's cover picture.*

[1]One of the laboratories of the Bureau of Agricultural and Industrial Chemistry, Agricultural Research Administration, U. S. Department of Agriculture. Report of a study made under the Research and Marketing Act of 1946.

ty Custodian. Short trips into the country were made when feasible.

China has been at war almost continuously since 1937, and during that period many of her universities and research institutions were literally carried to the interior on the backs of her people. These institutions now have returned to their original homes and are attempting to carry on their intended functions. However, the current civil strife is a serious handicap to the progress of their scientific program as the expenditures for war prevent adequate support for research and other progressive activities.

Farming Conditions

In addition to many years of war, China's high density of population is a serious factor in preventing any rapid rise in her standard of living. Her traditional type of culture is a hindrance to much-needed population control; however, if given a few years of peace, China undoubtedly would make substantial technical advances which should be reflected in a limited improvement in her standard of living. In visualizing changes in China, it is important to remember that she is not now in a position to utilize much of the labor-saving equipment so common in the United States, nor to adopt many of our advanced technical developments. Changes in China must follow a pattern suited to her circumstances.

Nearly 90 percent of the people are farmers. Agriculture is their most important industry. China has much wasteland, in hills, mountains, and deserts; roughly, only 25 percent of the land is arable. Farms average about 5 to 7 acres in size. If farmers of the wheat and corn sections of the United States were to visit China, I am sure they would be amazed at her farming practices.

At top, Chinese farmer threshes wheat with mule and stone roller near Peiping (June 26, 1948). Farmer at bottom is pumping water from rice fields with a water buffalo near Nanking. All parts of pump and elevator are made of wood (July, 1948).

In north China the crops are similar to ours. They include corn, wheat, millet, soybeans, Kaoliang (sorghum), cotton, rice, vegetables, and some fruits; in south China there is less diversification and the principal crop is rice. The great dissimilarity of our farming and theirs is in farming methods. The Chinese farmer uses hand tools; perhaps best described as like our garden tools. In north China the little power they have, other than manpower, is furnished by small donkeys or oxen, while in central and south China they also use the water buffalo. But there is a limited supply of these animals for work on the farm, probably due to the competition for food between the animal and man.

The whole Chinese family works at cultivating their few acres. Power machinery, as we know it, is not practical for them. China must import her gasoline, and, therefore, its cost is prohibitive. Anyway, the Chinese farmer cannot afford a tractor. Furthermore, if given a tractor and the gasoline for its operation, a Chinese farmer would still find this equipment impractical because of the small size of his farm.

Nevertheless, he could profit by a type of mechanization in keeping with the size of his farm. The Japanese have developed a certain degree of mechanization adapted to their small plots. Similar mechanization would be useful to China and further improvements are quite possible.

However, any release of labor from the farm through mechanization would, of course, need to be accompanied by industrialization to absorb the surplus labor and avoid unemployment. The Chinese farmer also could profit immediately by importation and development of new seed varieties to replace those which have degenerated. Unfortunately, under their present customs and practices an increase in production may go only to the support of a greater population rather than to an improvement in their standard of living.

The high density of population in China dictates a vegetarian diet for most of the people, especially her peasants. I was informed by the best authorities that customarily the peasants of China eat meat only

TABLE 1.—PRODUCTION OF VEGETABLE OILS AND OILSEED IN CHINA*

Item	Average 1931-37		Production 1946		1947	
	Seeds	Oil equivalent†	Seeds	Oil equivalent†	Seeds	Oil equivalent†
	Metric tons		Metric Tons		Metric tons	
§Soybean	10,360,750	1,450,505	7,790,500	1,090,670	7,926,950	1,109,773
Tung oil		‡120,000		‡80,000		‡100,000
§Peanuts	2,849,400	712,350	2,210,450	552,613	2,231,750	557,938
Rapeseed	2,473,000	865,550	3,182,300	1,113,805	3,718,700	1,301,545
§Cottonseed	1,527,100	229,065	978,150	146,723	1,085,350	162,803
Sesamum	873,000	392,985	695,900	313,155	643,550	289,597
Tea seed		25,000		25,000		21,000
Total		3,795,455		3,321,966		3,542,656

Other oilseeds of China not reported are linseed, perilla seed, hemp seed, castor seed, and oils from the tallow tree.

*Source: Agricultural Attache—Foreign Service, Shanghai.

†Oilseed converted to oil by following factors: soybeans, 14 percent; peanuts, unshelled, 25 percent; shelled, 36 percent; cottonseed, 15 percent; rapeseed, 35 percent; sesame seed, 45 percent.

‡Tentative estimates.

§Including a rough estimate of Manchuria.

three times a year, on their three great holidays, The Dragon Festival, the Autumn Festival, and at their New Year's celebration. The farmers raise some chickens, ducks, and pigs, and fish is common along the coast and waterways, but these products go largely to the few city people who can afford them.

According to Dr. William H. Adolph of Peking Union Medical College, the people of northern China use a basic food combination consisting roughly of 40 percent corn, 40 percent millet, and 20 percent soybeans. The northern diet also contains much wheat, some rice, and Kaoliang.

A comparison of the Chinese and American diets according to Dr. Adolph is as follows:

Food	China (Percent)	U.S.A. (Percent)
Meat and egg	3.0	21
Fats and oils	4.0	10
Milk (less than)	0.1	9
Sugar and starch		10
Vegetables and fruits	5.0	12
Cereal and legumes	88.0	38
	100.0	100.0

The division between animal and vegetable protein in the diet:

Animal protein	5.0	55.0
Vegetable protein	95.0	45.0

The diet in northern China, even though it is mostly vegetarian, is quite well-balanced because of the wide variety of cereals and oil-seeds it contains. Those who eat this diet in sufficient quantity show no outward evidence of undernourishment.

In contrast, southern China is lacking in the dietary balance obtained by the use of a variety of cereals since its principal food is rice. However, the open market places of Canton show a remarkable variety of vegetables.

Dr. Adolph pointed out that the Chinese diet is much lower in calcium than the American diet; the difference being accounted for largely by the absence of cow's milk. The lower calcium intake of the Chinese people is not generally apparent in their physical condition and it has been suggested that their body systems have made a satisfactory adjustment to their available diet.

China gives a wonderful illustration of the effects on the human race of a vegetarian diet over a long period of time. In fact, the state of nutritional equilibrium which has been attained in eastern Asia on a vegetarian diet is unique and could no doubt serve as a source of valuable nutritional data.

The farmers I visited in north China generally live congregated in small villages, which often are surrounded by a wall for protection. Many of the homes are built with mud or adobe which is reinforced with straw. The roofs are thatched. Floors are of dirt, and there is not much furniture. Neither wood nor coal for cooking or heating is available—the fuel consists of straw and other agricultural residues taken from the land. This practice, of course, robs the soil of much-needed organic matter which our agricultural experts think so important for good farming. Thus, it can be seen that the life of the Chinese peasant is rather primitive. Despite their primitive existence, Chinese farmers appeared to be rather cheerful individuals, although somewhat suspicious of strangers.

Oilseed Production

The 1947-48 production outlook for seven major vegetable oils or oilseed equivalents for China and Manchuria is reported by Owen L. Dawson, agricultural attache at the American Consulate General at about 6.6 percent over the previous year, or a total of 3,543,000 metric tons. Specific percentage changes were estimated as follows:

Oil	Increase (+) or decrease (−) over 1946
Tung	+25
Rapeseed	+17
Cottonseed	+11
Soybean	+2
Peanuts	+1
White tea	−16
Sesame	−8

No reports were available on linseed, perilla seed, hemp seed, and castor seed.

While the 1947-48 oilseed production picture is better than for the preceding year, the overall picture on oilseed supply is marred by the unsettled political conditions in Manchuria and North China. The outlook on exports of oil and oilseed for the current year are pessimistic. Table 1 shows the production of vegetable oils and oilseeds for 1946 and 1947 compared with a prewar average for 1931-37. These data were taken from a report of the Agricultural Attache American Consulate General, Shanghai, China.

(To be continued in March)

—s b d—

MAY CHANGE STANDARDS

Grain branch of Production and Marketing Administration has recommended certain changes in the soybean grading standards to the Secretary of Agriculture, Robert H. Black, assistant director of the branch, told the Farmers Grain Dealers Association of Illinois at its annual convention at Peoria Feb. 2.

The recommended changes in the standards: (1) An increase in the total percentage of splits allowed: (2) counting as yellow all green-coated beans with a yellow cross section; (3) Allowing an admixture of 10 percent more green-coated beans with yellow beans.

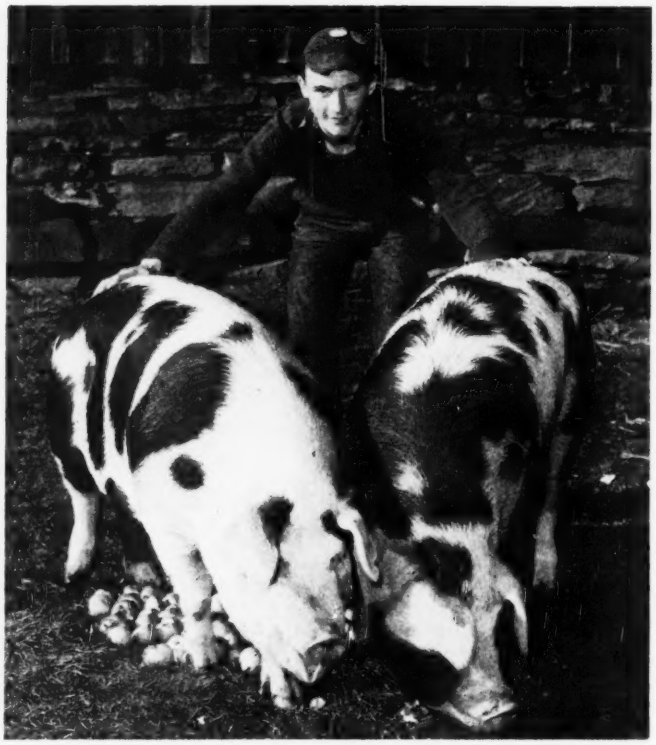
No decision has as yet been reached concerning the suggestion of elevator men that dockage and foreign material be combined, Black said. To see what effect such a change would have on grade all grain grading branches have been required to test samples according to the proposed change as well as under the present standard, and send the results to Washington for study, he said. Since the soybean movement has not been completed, with 75 million bushels remaining in farmers' hands January 1, this study is still under way.

Any changes made in the standards will be announced June 1 to go into effect 90 days later, Black said.

The Grain Dealers Association reaffirmed its last year's resolution in favor of classifying all material other than beans and splits as foreign material.

WHAT SUPPLEMENTS FOR SWINE?

By C. M. VESTAL
Purdue University



—USDA photo by Forsythe

Fifteen-year-old Wilbur Aitken of Delaware County, N. Y., and two of his Spotted Polands.

● *Soybean oil meal has top rank among high-protein feeds for practical swine production, but some minerals and vitamins are needed as supplements. The author is a member of the Purdue University department of animal husbandry.*

SOYBEAN OIL MEAL, as processed today, has qualities which make it one of our most valuable swine supplements. It is palatable, contains good-quality protein, and does not produce soft pork. Soybean oil meal combines well with the animal-protein feeds and especially with good-quality fish meal in swine rations. It is being used extensively in combination with these and other protein feeds in swine production.

Soybean oil meal often is too palatable for free-choice feeding, the hogs consuming excessive amounts, thus increasing the feed cost of gains. It has been found to be practical to mix minerals, alfalfa meal, ground oats or other less palatable feeds with the soybean oil meal in free-choice feeding with grain. At Purdue we have used a mixture of 1 pound of a simple mineral mixture with 5 pounds of soybean oil meal, thereby successfully reducing excessive consumption of this supplement when fed free choice with corn.

Approximately two-thirds of a pound of the soybean oil meal per hog daily with the grain ration is usually adequate to supply the protein needs of the animal. We have found that mixing the minerals with the soybean oil meal keeps the consumption of the meal at about the right level in free-choice feeding. The amount consumed can be governed by adjusting the proportions of the soybean oil meal and minerals. The same principle will apply to mixed supplements containing high percentages of the palatable soybean oil meal.

Under certain restricted feeding conditions, soybean oil meal has produced less favorable results than tankage or some of the other animal-protein feeds in sow and pig rations. However, when pasture or pasture products which supply the nutritive factors of green grass are fed with the soybean oil meal and adequate minerals in sow and pig rations good results are obtained.

Wisconsin experiments, and others, with bred gilts fed in dry lot demonstrated the value of good-quality alfalfa meal supplementing a corn-soybean oil meal-mineral ration for satisfactory farrowing results. Fifteen percent of alfalfa meal proved more effective than smaller amounts in the ration.

Recent experiments at Purdue with gilts showed that alfalfa pasture fed for a 5-month pregestation period and during the following winter gestation period, in addition to a corn-soybean oil meal-mineral ration, improved the strength and livability of the newborn pigs and increased the number weaned per litter.

The gilts that had alfalfa pasture in addition to the basal ration farrowed heavier and stronger pigs than those on the basal ration alone, or those receiving 15 percent of dehydrated alfalfa meal with the basal ration, which consisted of yellow corn, soybean oil meal, minerals and cod-liver oil.

The pigs farrowed by gilts that had been on alfalfa pasture during the pregestation and gestation periods were heavier and apparently stronger

TABLE 1—AVERAGE OF THREE EXPERIMENTS WITH MATURE SOWS AND SPRING LITTERS

	Farrowing Record			
Lot	1		2	
Gestation Ration	Shelled corn	63 lbs.	Shelled corn	62 lbs.
	Whole oats	32 lbs.	Whole oats	31 lbs.
	60% tankage	5 lbs.	Soybean oil meal	7 lbs.
	Mineral mixture		Mineral mixture	
Total number of sows	34		33*	
Av. number of pigs in litter	11.26		11.45	
Average litter weight	29.57 lbs.		31.22 lbs.	
Average pig weight	2.62 lbs.		2.72 lbs.	
	Weaning Record			
Suckling Ration	Ground corn	70 lbs.	Ground corn	68 lbs.
	†Wheat middlings	20 lbs.	†Wheat middlings	20 lbs.
	60% tankage	10 lbs.	Soybean oil meal	12 lbs.
	Mineral Mixture		Mineral Mixture	
Total number of litters	34		33	
No. of pigs weaned per litter	7.68		8.61	
Average litter weight	240.46 lbs.		252.44 lbs.	
Average pig weight	31.32 lbs.		29.33 lbs.	
Percentage of pigs weaned	68.15 lbs.		75.13 lbs.	

*34 sows started—one died.
†Coarse-ground wheat replaced the middlings in one experiment.
Pigs were weaned at eight weeks of age.

TABLE 2—AVERAGE OF THREE EXPERIMENTS WITH WEANLING PIGS* ON ALFALFA PASTURE

Lot	1		2	
Ration	Ground corn	70 lbs.	Ground corn	68 lbs.
	†Wheat middlings	20 lbs.	†Wheat middlings	20 lbs.
	60% tankage	10 lbs.	Soybean oil meal	12 lbs.
	Mineral mixture		Mineral mixture	
Total number of pigs	78		77‡	
Average initial weight	44.8 lbs.		42.6 lbs.	
Average final weight	75.6 lbs.		76.6 lbs.	
Average daily gain	1.16 lbs.		1.16 lbs.	
Feed for 100 lbs. gain				
Corn	201.6 lbs.		192.1 lbs.	
Wheat or middlings	57.6 lbs.		56.5 lbs.	
Protein supplement	28.8 lbs.		33.9 lbs.	
Minerals	.3 lbs.		4.2 lbs.	
Total	288.3 lbs.		286.7 lbs.	

*These were representative pigs from litters reported in Table 1.
†Coarse-ground wheat replaced the middlings in one experiment.
‡78 pigs started—one died.

when weaned than those in the other lots.

It was shown recently at the Illinois Station that bred gilts had a carry-over of some necessary nutritional factors from rye pasture, fed with the corn-soybean oil meal-mineral winter gestation ration, resulting in a higher percentage of the pigs saved during lactation in dry lot.

Recent experiments with mature sows at the Purdue Station showed that bluegrass pasture fed with the corn-soybean oil meal-mineral ration during a 5-month pregestation period increased the weight and strength of the pigs farrowed when the sows received a winter gestation ration of corn, soybean oil meal, minerals and cod-liver oil in dry lot.

Results of earlier experiments with bred sows led to the study of the influence of the pregestation ration on the strength and livability of the newborn pigs. Contrary to results obtained elsewhere, sows in gestation experiments at Purdue were consistently producing satisfactory farrowing and weaning results when fed in dry lot during gestation, on rations containing only soybean oil meal and minerals as supplements to a grain mixture. These sows had been on pasture all summer and fall prior to breeding in November for spring litters, the same as is commonly practiced on central Cornbelt farms.

In the experiments showing unsatisfactory farrowing and weaning results with the soybean oil meal supplement in the gestation and lactation rations, the gilts or sows were subjected to dry-lot treatment for an extended pregestation period and also during gestation and lactation.

Table 1 shows the results of experiments with mature sows comparing soybean oil meal and 60 percent tankage as supplements in gestation and lactation rations when the sows used had been on pasture prior to breeding time in the fall and again during lactation.

Obviously, the sows fed soybean oil meal in these experiments had stored in their tissues sufficient amounts of essential B-complex vitamins or other nutritional factors of green grass to permit good farrowing results and the production of pigs with good livability.

The evidence here indicates that soybean oil meal is a very satisfactory supplement to use in the dry lot gestation ration of mature sows that have access to good pasture during the pregestation and lactation periods. In other words, for sows handled under good swine management practice on the farm.

Further evidence that soybean oil meal is a good swine supplement is shown in Table 2 which gives a comparison of soybean oil meal and 60 percent tankage as supplements in practical rations for growing pigs on pasture.

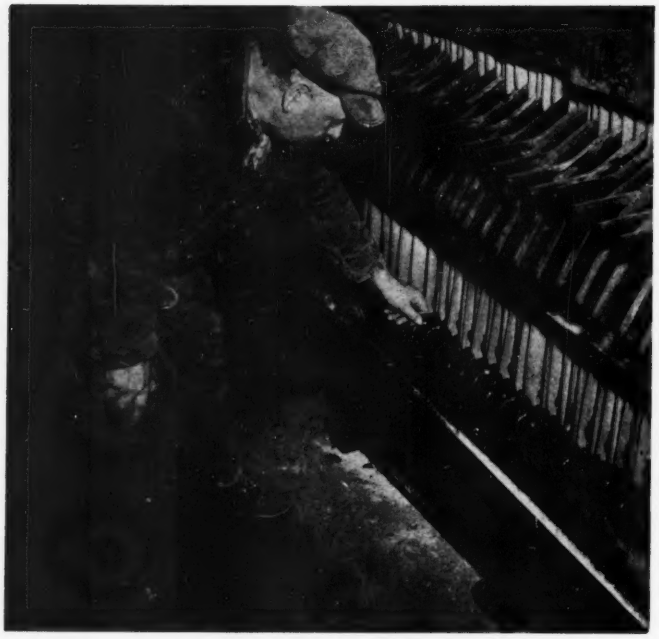
The gains and total feed requirements were almost identical in these two lots of pigs in these experiments, despite the fact that less soybean protein than tankage protein was consumed. Apparently, any benefit from the so-called "animal protein factor" in the tankage-fed lot was overshadowed by the combination of soybean protein and good alfalfa pasture in the other lot.

Value of Pasture

These results with sows and growing pigs indicate that the problem of making soybean oil meal a more effective swine supplement on the farm would be greatly simplified if farmers and swine growers would provide good pastures for their hogs whenever the growing season permits. It is necessary, however, to determine the nutritional deficiencies of soybean oil meal for swine, and the means of correcting these deficiencies for maximum results.

Properly processed soybean oil meal fed with corn or other grain meets efficiently the protein deficiencies of these feeds for swine. However, the soybean oil meal is deficient in minerals and essential vitamins, which we now are learning how best to supply in the ration. Obviously, one of the most important problems is the supplying of B-complex vitamins for pregnant and lactating sows and young growing pigs. High-quality green alfalfa meal is probably the best and surely the most widely used practical substitute for fresh green pasture in supplying these factors, although a number of by-products of industry such as fish solubles and distiller's solubles are being used for this purpose. Calcium deficiencies of soybean oil meal can be corrected by high-calcium limestone or steamed bone meal; and phosphorus deficiency by steamed

(Continued on page 42)



Employee at filter press of North Iowa Cooperative Processing Association, Manly, Iowa.

Composition

AND ITS EFFECTS ON THE PRICE OF SOYBEANS AND SOYBEAN OIL

By R. T. MILNER

Northern Regional Res. Laboratory[2]
Peoria, Ill.

IN DISCUSSING composition and its relation to the price of soybeans and soybean oil, I must refer briefly to the start of analytical work at the U. S. Regional Soybean Industrial Products Laboratory at Urbana, Ill., in 1936. When that Laboratory was started, one of the four sections was an analytical section. The section had two main purposes in view.

The first was to determine in detail the composition of soybeans in the hope of finding "hidden values" in the constituents. At that time a complete analysis of soybeans had never been made and, in fact, a fairly large part of the mature soybean was of unknown composition. It seemed possible that in this unknown portion valuable constituents might be found that would enhance the value of the crop. The Laboratory at Urbana found that there was a surprising amount of sugar or sucrose in soybeans, averaging around 10 percent. Also work was undertaken and actively pursued on the sterols and phosphatides found in the soybean fraction. As you know, the soybean phosphatides have been extensively used, and sterols from soybeans now serve as a starting point for the synthesis of hormones.

The second purpose of the analytical section was to assist the agronomist and geneticist in their plant-breeding program. For this purpose it was necessary to find how composition was affected by variety, environment, and fertility level of the soil. With this information as background, continued analysis was needed to discover new varieties which had high oil and protein contents and to make sure that these varieties exceeded in these respects those in current production.

The first 5 years' work on this second problem are summarized in *Technical Bulletin 787* of the U. S. Department of Agriculture. On inspecting the reports in this bulletin on varieties studied for a 5-year period, you will be struck by the fact that most of them are no longer grown. This in itself is a tribute to the success of the agronomist and the geneticist. The new varieties—Lincoln, Chief, Hawkeye, and the others now appearing—are a direct outgrowth of this breeding and testing program. The high oil content of the new varieties is not an accident. It was aimed for by the geneticist and confirmed by chemical analysis before these varieties were released for general use.

Oil Content

I should like to emphasize the great importance of the oil content of soybeans in determining the value of the beans. Here are some figures, selected at random, showing the ratio of the price of 1 pound of oil to 1 pound of meal, covering certain years from 1932 to the present.

Year	Price ratio Oil/meal
1932	3.4
1937	4.1
1942	5.5
1947	5.7
1948 (May 14)	6.8

Note that the lowest this ratio has been is 3.4. This occurred not only in 1932 but also in 1939. At present, of course, with the extreme scarcity of oils and with the consequent high price of soybean oil, the ratio is extremely high. However, over this 16-year period, the oil has always been worth more than three times as much as the meal—pound for pound.

You will recall our experience during the war when it was necessary to obtain every possible pound of oil and fat because sources of foreign oils were cut off. To encourage farmers and utilize processing facilities fully, it was necessary for the government, through the Commodity Credit Corporation, to assume complete responsibility for the soybean crop. Farmers were encouraged by a guaranteed price for soybeans based only on the commercial grading factors of moisture, foreign matter, damage, and the like. This price was paid by Commodity Credit Corporation who then sold the soybeans to processors at a

[1]Presented at Cooperative Soybean Oil Mills Conference, Northern Regional Research Laboratory, May 25-27, 1948.

[2]One of the laboratories of the Bureau of Agricultural and Industrial Chemistry, Agricultural Research Administration, U. S. Dept. of Agriculture.

price based primarily on the oil content of the beans.

Differentials, of course, were allowed. These varied according to the type of processing employed (hydraulic, screw press, solvent). They were designed to give a reasonable profit to the processor and to allow extra profit as an incentive to efficient processing.

Since the value of the beans depended so largely on oil content, extreme importance was attached to the accurate determination of oil content, and the official method of analysis for oil content was given a very severe test. This official method had been developed in previous years largely in research laboratories and more or less for academic use. It is a common experience that methods are not critically examined until they are used for trading purposes and involve premiums and discounts based on the analytical results.

When Commodity Credit Corporation started basing prices on analytical oil determinations a great deal of trouble was at first encountered. Through cooperation and research, some of it conducted at the Northern Laboratory, it was possible to place this official analytical method for oil content of soybeans on a sound and reproducible basis so that results obtained by different laboratories were in agreement and truly reflected the yields which could be obtained in commercial process.

This official method, however, is tedious, requires more than 5 hours for completion, and the work must be done with specialized equipment and with considerable skill. Soybeans are no longer bought on an oil-content basis and undoubtedly the difficulty of analysis is a contributing reason for this. It would be extremely desirable to have an inexpensive, rapid, and accurate method for determining oil content, one which relatively unskilled operators could use. We have recognized the desirability of such a simple method for many years and have done a great deal of work on it. I wish I could report that we have been successful; instead I can only report some of the methods that have been tried and the reasons why we do not believe that they are successful.

Refractometer

One promising method, which was first developed for flaxseed, uses the difference in refractive index between soybean oil and a solvent as a measure of oil content. Briefly, the method consists of grinding the oilseed with a solvent which has a much higher index of refraction. A drop of the mixture of solvent and soybean oil is placed in a refractometer and the index read. Reference to a table then gives the amounts of soybean oil in the mixture and from this the oil content of the original soybeans can be calculated.

View of oil extracting from screw press in processing plant. Since the oil is worth from three to six times as much per pound as the oil meal, its treatment in the processing plant is of great importance. Photo courtesy of North Iowa Cooperative Processing Association, Manly, Iowa.

Refractometers are relatively easy to operate and, of course, the reading may be taken in less than a minute. Unfortunately, the refractive index of soybean oil itself is not a fixed value but varies with the unsaturation or drying power of the oil. In fact, it may be used to measure the unsaturation and thus replace the iodine number determination. Because of this variation in refractive index, a correction, based on a measurement of the refractive index of the particular sample of soybean oil concerned, must be made. This means twice the work and although the method remains a fast one from the standpoint of total time from sampling to obtaining the final answer it still is a tedious and exacting determination. To obtain sufficient accuracy the refractometer must be a special research model, usually costing more than $1,000, and it is rather fragile and delicate.

The time required to make, for example, 100 oil determinations by the refractometric method would not be appreciably shorter than the time for 100 analyses by the present official chemical method. If the goal is a method sufficiently simple and fast for use by a country elevator on trucks of soybeans from the field, then we can hardly consider the refractometric method as satisfactory.

Another ingenious scheme depends on the difference in density between soybean oil and a solvent. An instrument called a "lipeometer" for determining the oil content in soybean oil meal has been on the market for a number of years. This instrument, really a special hydrometer, is used to measure the density of a special solvent which has been stirred with the ground sample. The solvent leaches out a fixed proportion of the oil present and the resulting change in density, when compared with the original solvent, indicates the oil content of the oil meal.

As I stated previously, this device was designed for oil meal which would not contain over 5 to 7 percent oil. It was reasonably accurate for this purpose and would distinguish, for example, between cake containing 4.0 and 4.5 percent oil. However, this difference of 0.5 percent is in reality one part in 8 or 9. If it is assumed that the same error will hold when the lipeometer is used on whole soybeans, then as much as 2.5 percent discrepancy in oil content would be possible; that is, values such as 16 percent and 18.5 percent would be regarded as being in agreement. It seems clear that this inaccuracy is

much too great and that the lipeometer would be unsatisfactory in general use.

We have done some work at this Laboratory in attempting to modify and improve this principle of determining oil content. We feel that any successful method must necessarily be a physical one, and because density is a value which can be measured without elaborate apparatus we have attempted to refine and improve methods which depend on the difference in density between oil and a solvent. We discovered that volatile solvents, such as ether, chloroform, and carbon tetrachloride, are not satisfactory and hence have been working with bromoform which has a high boiling point and a very high density. In order to increase accuracy we have also reduced the amount of solvent used. Using 3 cc. of bromoform as solvent with a ground sample of 2 grams of soybeans, we have obtained values which agree fairly well with the chemical method.

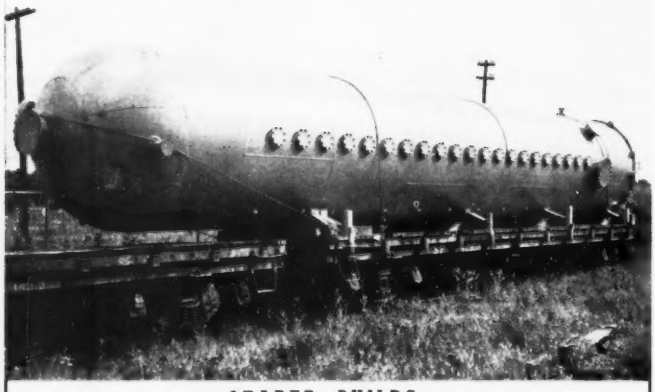
We found, however, that the accuracy and reproducibility are not satisfactory. It is possible that further work will enable us to refine this method, but at present this method, like the others, is not suitable for accurate quantitative work.

In addition to the quantity of oil present in the soybeans, the quality or composition of the oil directly affects its use and value. The analysis of vegetable oils has been very difficult and for many years inaccurate values have been published. With the recent introduction of good physical instruments, such as ultraviolet spectrophotometers, methods have been developed which measure directly the amounts of linoleic and linolenic acids in vegetable oils. You will recall that linoleic acid has two double bonds and linolenic acid has three double bonds, whereas oleic acid has only one double bond, and saturated acids have none.

By treating vegetable oils with concentrated alkali dissolved in ethylene glycol, the double bonds can be made to migrate so that absorption of ultraviolet light results. This absorption can be used to determine the presence and amount of the original acids. This spectrophotometric method is the most accurate known method for determining fatty acid composition.

The older method involves iodine number, thiocyanogen number, and amount of saturated fatty acids—three separate determinations. It is so long and tedious that there is difficulty finding chemists who are willing to conduct collaborative work when the old procedure is used.

PROCESS EQUIPMENT



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Refining Loss

Just as the fatty acid composition of oils is of interest chiefly to the drying-oil industry, the refining loss of an oil is of primary importance to processors of edible oils. This refining loss test, originally developed for cottonseed, has been modified through the years. A great amount of collaborative work has been carried out, and the test is quite well accepted by this trade.

When it became desirable to adopt refining loss procedures for soybean oil, the cottonseed method was used. It was found that additional slight modifications were needed. These have been made and the method checked, and last fall it was felt that the method was satisfactory and could be used for trading purposes. Again, the "acid test" was applied to an analytical method. It is too soon yet to determine whether the method is completely satisfactory or needs further change.

I might say that the refining committee of the American Oil Chemists' Society, in active collaboration with this Laboratory, has been testing an improved refining method which more closely simulates actual plant practice. A high-speed centrifuge is used to settle and compact the foots produced in refining. This so-called "centrifuge method" is now under collaborative test and gives promise of being a useful and valuable analytical method. The results are more accurate and the procedure is much faster than the present official oil refining test.

Color of the oil is another important characteristic. For both margarine and shortening uses, the refiners desire an oil which can be made almost colorless. The measurement of color has formerly been carried out by visual methods, comparing a column of oil with tinted glasses. This has been rather unsatisfactory and has led to numerous disputes. During the past few years the color committee of the American Oil Chemists' Society has been studying other more instrumental methods, and is proposing a spectrophotometer for use at selected wavelengths to measure the color of soybean oil. This method is not yet official, but it gives every promise of being satisfactory and of being adopted in the near future.

One other factor affects the usefulness of soybean oil. This is sludge or tank settlings. The trading rules of the National Soybean Processors Association specifically mention sludge and provide penalties for excessive amounts of this material in a tank car of oil. Unfortunately, there is no

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chemical method for analyzing oil for sludge and no way of predicting when this material will appear or the amount that will show up.

In recent years, especially with the advent of solvent extraction, more and more soybean oil has been degummed. This, of course, almost completely removes the possibility of sludge formation. As long as a respectable price can be obtained for crude soybean gum or phosphatides, probably it will be profitable to degum the oil because a degummed oil is much more stable for shipment.

In emphasizing the important role played by chemical analysis in measuring the true value of soybeans and soybean products, I should like to emphasize especially the importance of controlling some of these factors discussed. You cannot control the oil content of soybeans because that is fixed both by the climate and the variety grown by the farmer. However, for the sake of your own profits, it will certainly pay you to encourage farmers to grow only high oil content beans. The experiment stations and the Regional Soybean Laboratory will be very glad to furnish the names of high oil varieties and the areas to which they are adapted.

Having purchased the beans, the processor can determine to a large extent the quality of the oil and meal which he produces. In the case of oil produced by the screw-press process, the small processor in particular must take care that this oil is cleaned up before shipment. It should be settled and filtered if trouble with sludge is to be avoided. I have heard complaints from refiners and buyers of oil that small mills, in particular, are most careless in this respect.

The adjustment and maintenance of screw presses is also important in avoiding excessive amounts of settlings. I should like to caution you also on the difficulties in obtaining truly representative samples for analysis. Regardless of the method or the chemist, correct results cannot be obtained unless the sample is correctly taken and correctly subdivided. I have heard of cases in which two laboratories obtained different results on supposedly the same sample. An interchange of samples between laboratories showed, however, that there were really two distinct samples being analyzed. The chemist and his analyses have been and can be of great value in the profitable operation of soybean processing plants.

PROCESSORS AND AGRONOMISTS TO MEET

Ohio processors and college men will join those of Indiana and Illinois for a 2-day Tri-State Processor-College meeting at Champaign March 29 and 30, R. G. Houghtlin, president of the National Soybean Processors Association, Chicago, has announced.

In the past the Ohio group has held separate meetings, and the Illinois-Indiana meetings have alternated between Purdue University and the University of Illinois.

The Tri-State sessions will open with a tour of College of Agriculture greenhouses from 4:30 p. m. to 6:30 p. m. March 29. Some interesting experiments on soybeans, including disease work are in progress in the greenhouses, and visitors will be able to inspect this work.

The greenhouse tour will be followed with a 7 p. m. dinner sponsored by the Soybean Crop Improvement Council, and a smoker at which President Houghtlin will preside.

A full day's program is being set up for March 30. Dr. W. L. Burlison, head of the department of agronomy, will preside in the morning sessions, and J. W. Calland of the Soybean Crop Improvement Council, in the afternoon.

Following is the tentative program:

"Fats and Oils Outlook," a government representative, Washington, D. C.

"Factors Considered in the Purchase of Soybeans," Dale W. McMillen, Jr., Central Soya Co., Inc., Fort Wayne, Ind.

"The Soybean Research Program of the Northern Regional Research Laboratory," R. T. Milner, director, Peoria.

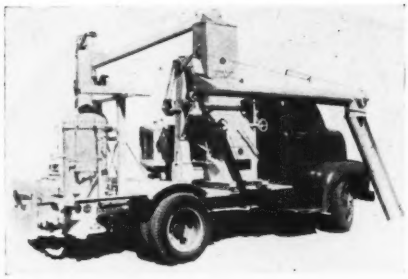
"Bird's Eye View of New Research in Soybeans," J. W. Calland, Fort Wayne, Ind.

"Storage of Soybeans," a University of Illinois staff member.

"Soybean Oil Meal in Animal and Poultry Nutrition," a Purdue University staff member.

"Physiology and Nutrition of the Soybean Plant," Chester E. Evans, Ohio State Agricultural Experiment Station.

"Effect of cultivation on Yield in Row and Solid Planted Soybeans," James E. Newman, Ohio State University.



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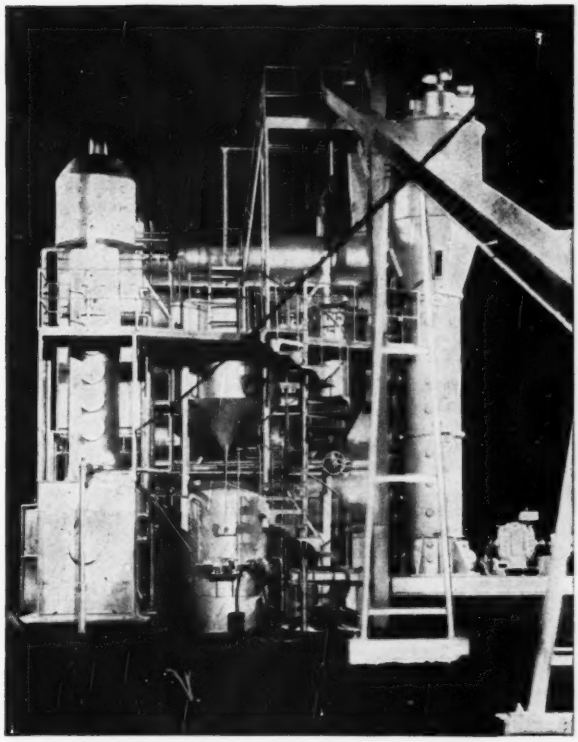

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MARGARINE DRIVE IN STATES

Opening guns in the battle of 1949 to remove federal and state restrictions on margarine were fired in Ohio January 25. Hearings opened on that date before the Ohio Senate commerce and labor committee on S. 6, to permit the manufacture and sale of colored margarine but ban the use of foreign oils.

The bill was introduced January 12 by Arthur Blake (D) and has the backing of the American Soybean Association.

ASA President Ersel Walley, Fort Wayne, Ind.; David G. Wing, Mechanicsburg, Ohio; and ASA Secretary-Treasurer Geo. M. Strayer, Hudson, Iowa, all presented testimony in favor of the bill.

"Neither butter nor margarine nor any other commodity has a monopoly on yellow color," said Wing in his appearance before the committee to urge passage of S. B. No. 6.

"The same artificial coloring is used in butter as is used in yellow margarine," said Wing. "Soybean oil in its natural state is a golden yellow color, just as June butter is a natural yellow. Standardization of butter necessitates the use of artificial coloring the major portion of the year. Standardization of the color of margarine would require a similar coloring agent. One product has the same right to that coloring agent as the other. Neither can justify the taxation of the other as a means of market monopoly."

Wing placed the Association on record as backing the domestic fats and oils section of the bill. "The American Soybean Association takes the position that the important issue for the protection of Ohio farmers who produce the cream which goes into butter and the soybean oil which goes into margarine is the feature of the proposed legislation which restricts the manufacture and sale of yellow margarine only to margarine made from fats and oils produced in the United States," he said. "Historically, it has been cheap, imported oils with which the American producer of fats and oils cannot compete."

Action was being pressed on a wide front on margarine bills in state legislatures.

In Iowa a House bill H 48 to reduce retailers' license fees from $50 to $5, and wholesalers' license fees from $200 to $25 passed the House January 21. Two other bills have been introduced in the Iowa legislature. H 77 introduced by Kingsley M. Clarke (R) would repeal the state margarine tax of 5c a pound, but would retain the ban against manufacture and sale of yellow margarine. And S 45 introduced by Clark Hamilton (D) would require margarine stamps be affixed by wholesalers.

In the Tennessee House a bill to repeal the state margarine taxes failed to pass in test votes January 13 and 14.

A bill to lower wholesale license fees from $200 to $25; and retailer license fees from $50 to $5 passed both houses of the Idaho legislature in late January.

Margarine bills have also been introduced in the following states:

Repeal prohibitions against manufacture of margarine—Michigan and Pennsylvania.

Remove all restrictions—Connecticut.

Permit institutional use — New York and Nebraska.

Remove margarine taxes—California, Washington (white only), Utah, Wyoming, Tennessee, and Wisconsin.

Permit colored margarine—California, New York, Oregon, Pennsylvania, New Hampshire, Delaware, and Michigan.

Lower or remove license fees — Pennsylvania, California and Wisconsin.

A view of the Hart-Carter Co. machine shop where machine tools all have been equipped with direct motor drive, making possible their placements for highest efficiency and providing ample power at all times. A number of new machines have been installed and each has been given its own lighting.

HART-CARTER MODERNIZES

A continuing program of plant modernization has made it possible for Hart-Carter Co. of Minneapolis, to offer its customers better grain cleaning and grading equipment at prices that average lower than they did in the 1920s, C. C. Ingraham, vice president in charge of the company's northern division, asserts.

Plant improvements now nearing completion will put production on a modified assembly line basis although the company's machines are made largely according to customer requirements.

"Modernizing is a continuing program with us," Mr. Ingraham explained. "It has been going on since the early '20s and it is only because the war years prevented us from doing a normal amount of modernizing that the present schedule calls for improvements on a large scale."

As one of the world's largest exclusive manufacturers of grain and seed cleaning equipment, the Minneapolis division of the company is well known to operators of flour, feed and rice mills, seed houses, cereal and malting plants.

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VAN WERT SOYBEAN ROUNDUP FEB. 17

The 10th annual Van Wert Soybean Roundup will be held at Marsh Foundation School, at Van Wert, February 17, in conjunction with a soybean training school to be put on by the American Soybean Association, Gus Holland, chairman, has announced.

The tentative program follows:

10 a. m.

"Soybeans—Soil Builder or Soil Robber," Ward Calland, National Soybean Crop Improvement Council, Decatur, Ind.

"History and Accomplishments of American Soybean Association," E. F. "Soybean" Johnson, Delphos Grain & Milling Co., Delphos, Ohio.

"The Soybean Digest," Kent Pellett, managing editor, *Soybean Digest*, Hudson, Iowa.

1:30 p. m.

"Soybean Are Worth More Money," Ersel Walley, Walley Agricultural Service, Fort Wayne, Ind.

"Putting Cotton on the Map," Representative of the National Cotton Council.

"Field Program of the American Soybean Association," Paul C. Hughes, field service director, American Soybean Association, Hudson, Iowa.

"Soybean Problems Ahead and What You Can Do to Help," Geo. M. Strayer, secretary-treasurer, American Soybean Association, Hudson, Iowa.

Following are members of the Roundup committee for 1949:

Gus Holland, chairman, Holland Pioneer Mills, Ohio City.

John H. Leonard, secretary, vocational agricultural instructor, Marsh Foundation School, Van Wert.

Vernon Pond, seedsman, and president of Van Wert County Seed Improvement Association, Scott.

R. R. Springer, farmer, Rt. 4, Van Wert.

W. G. Weigle, manager Marsh Foundation Farms, Van Wert.

L. A. Gilliland, grain dealer, Gilliland Grain and Coal Co., Van Wert.

Dale Wortman, implement dealer, Van Wert.

L. C. Holtkamp, county agricultural agent, Van Wert.

R. S. Oetzel, Marsh Farm service department, Van Wert.

HEADS EXCHANGE

Eldred A. Cayce, vice president and director of purchasing for the Ralston Purina Co., has been elected president of the St. Louis Merchants Exchange for 1949. Mr. Cayce served as first vice president of the Merchants Exchange for the past year. Cayce, a native of Nashville, Tennessee, joined the Ralston Purina Co. in 1917 as Traffic Manager in the Nashville office. In 1944 he came to the general headquarters' office in St. Louis as assistant vice president.

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SPECIALIZING IN ANALYSES OF SOYBEANS--OILS--MEALS

"OVER ~~500~~ 800 MILLION DOLLARS WORTH OF PRODUCTS ANALYZED SINCE 1935"

—Photo courtesy Clara City, Minn. Herald.

One of the many carloads of soybeans on its way from U. S. soy belt farms to hungry Europeans as part of the Christian Rural Overseas Program drive in 23 states last fall. This car was loaded in the Clara City, Minn., community, the first in Chippewa County. On hand to give the car an official send-off were Rev. M. Weeldreyer (left), CROP committeeman, and George Wolff, who painted the banner attached to the car. The CROP campaign for European relief was said to have been the greatest combined Protestant-Catholic effort in history.

BOOKS

A WORLD OILSEED PICTURE

If you are wanting a concise world-wide picture of the various vegetable oils and oilseed crops, a good book to have is the 108-page *Vegetable Oils and Oilseeds* put out by the Commonwealth Economic Committee, London. The book was published in 1948 and carries figures on production, acreage, exports and imports of the leading oilseeds in the principal producing countries from 1934 through 1946 and, in some instances, 1947.

Oilseeds covered are peanuts, cottonseed, linseed, rapeseed, soybeans, sunflowers, sesame, castor beans, perilla, coconuts, oil palms, olive oil, tung and others.

World production of soybeans in 1946 was 15 million tons, almost double that of any other oilseed crop. Cottonseed and peanuts stood next on the list with something over 8 million tons production each.

But the importance of soybeans in international trade has been declining due to the fact that Manchuria, the chief exporting nation, no longer exports so many beans as before the war. China and the U. S., the two leading soybean-producing nations, consume most of the crop at home.

The book may be purchased at a price of 5s through British Information Services, 30 Rockefeller Plaza, New York 20, N. Y.

For a detailed report on world oilseeds and fats and oils production and prices for 1947 see:

ANNUAL REVIEW FOR 1947 OF OILSEEDS, OILS, OILCAKES AND OTHER COMMODITIES. 90 pages. Price L 1.10d. Frank Fehr & Co., ¼ Bury St., London, E.C.3.

INDEX TO SOLVENT PROCESS

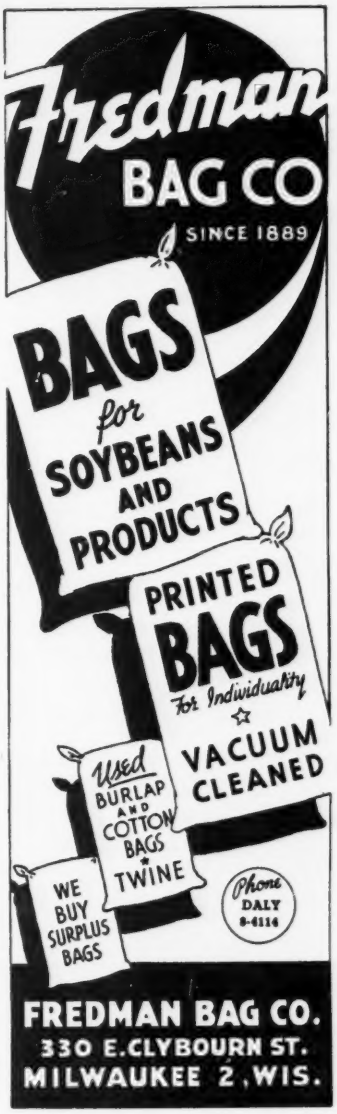
The solvent extraction of oilseeds in the U. S., particularly soybeans, cottonseed and peanuts, has become commercially important. Much has already been published on the subject of solvent extraction.

The Georgia Tech Engineering Experiment Station's technical information service has published an indexed bibliography of the pertinent literature on the subject.

References deal with the preparation of seeds for extraction, solvents used, processes and apparatus involved, methods for separation of the various constituents after extraction, and uses of by-products from the process. Special attention was given to oilseed protein.

Main interest at Georgia Tech is in peanuts because of the research in peanuts being carried on there. But the authors have also included all available information on other oilseeds, such as soybeans and cottonseed.

LITERATURE SEARCH ON THE SOLVENT EXTRACTION OF OLEAGINOUS MATERIALS. By B. H. Weil, Marjorie Bolen and Nathan Sugarman. 192 pages, clothbound. Price $4. State Engineering Experiment Station, Georgia School of Technology, Atlanta, Ga.



Publications

SEES POSSIBLE DROP IN U. S. ACREAGE

A drop of between one-fourth and one-third in U. S. soybean acreage in the next 6 years is probable, according to Edwin G. Strand, agricultural economist of USDA's Bureau of Agricultural Economics.

Strand's estimate for soybean production by 1955 is based on:

1.—A somewhat lower price of soybeans compared to corn than has been obtained the past few years.

2.—Cut of between 7 and 13 million acres of row crops in the Cornbelt to make way for conservation practices. This would mean stiffer competition between soybeans and other row crops for the remaining cultivated acreage.

Strand emphasizes that he is making no predictions but only "conditional" estimates. Actually, Cornbelt farmers may not convert to sod so rapidly. And who knows what the soybean-corn price ratio will be in 1955?

He believes that soybean prices compared with corn may be lower than they have been recently—based on the probable supply-demand situation. He suggests three possible price ratios with the estimated national acreage and production by 1955 based on those ratios as follows:

Soybean price x corn price	Soybean Acreage	Soybean Production (bu.)
2.0	8.7 million	191 million
1.6	7.2 million	159 million
1.2	4.8 million	107 million

Present soybean-corn price ratio is close to the middle figure. Above acreage and production figures compare with the 10 million acres and the 220 million-bushel crop of 1948.

If soybean acreage drops to the 4.8 million mentioned it will be a full million acres under 1941, the last prewar year.

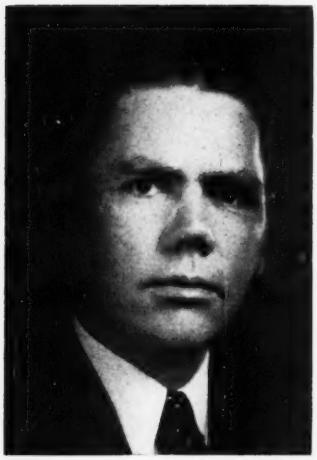
Strand's estimates tend to bear out thinking of spokesmen for the American Soybean Association. They say that the price of soybeans must remain at two to two and one-half times the price of corn if the present national soybean acreage is to be maintained. The lower the price of beans compared with corn, the weaker the position of beans will be in competing for acreage.

Soybeans have a more flexible supply position than other oil crops; and the Cornbelt cropping system is also flexible in acreage planted. For this reason the fats and oils supply and demand position will have more effect on soybeans than other U. S. oil crops.

Soybeans in American Farming, a recent publication by Strand, describes the conditions that led to wartime expansion of soybean production and estimates the probable immediate future of the crop.

The author points out that the crop is so new and its record so dynamic that reliable predictions are difficult. He says that the usual methods of the statistician are of doubtful value for these reasons.

Strand estimates that world fats and oils production by 1955 may run from one-fourth to one-third greater than prewar. World exports may be 20 percent greater with the United States importing net 1 billion pounds of fats and oils annually.



EDWIN G. STRAND

He points out that a high level demand for both oil and meal depends on maintaining a good standard of living in the U. S.

SOYBEANS IN AMERICAN FARMING. *Technical Bulletin No. 906*. 68 pages. By Edwin G. Strand, agricultural economist, Bureau of Agricultural Economics, U. S. Department of Agriculture, Washington, D. C.

PROCESSING

Reversion

All sections of the edible oils industry have awakened to the necessity of conducting fundamental chemical research, says Warren H. Goss of Pillsbury Mills, Inc., Minneapolis. Goss believes that as a result a full and satisfactory cure will be

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found for the reversion problem in soybean oil.

He also looks for other developments, many of an unexpected nature to produce far-reaching effects in the food business. The number and magnitude of the research programs being devoted to fats, oils and oilseeds have increased manyfold and cannot fail to speed progress, he believes.

PROCESSING EDIBLE FATS, by Warren H. Goss, *Industrial and Engineering Chemistry*, Washington, D. C. Dec. 1948.

Mill Operators Manual

Twenty cooperatives now operate soybean mills in the U. S.

Of this number, seven are in Iowa, four in Indiana, two each in Ohio and Kansas, and one each in Missouri, Minnesota, Illinois, Kentucky and Pennsylvania.

A manual has been prepared by Farm Credit Administration for the use of managers, directors and other officials of cooperative soybean mills. It is an attempt to bring together pertinent information not otherwise obtainable in one place for the quick use of these officials in their day-to-day operations.

The tables and charts cover acreage and production, seasonal marketing by farmers, crushing by mills, prices for each of the various products, and estimated margins between the prices of soybeans per bushel and the value of oil and meal obtained.

WORKING MANUAL FOR CO-OPERATIVE SOYBEAN OIL MILL OPERATORS. By Ward W. Fetrow and Jane L. Scearce, cooperative research and service division, Farm Credit Administration, U. S. Department of Agriculture, Washington, D. C.

Canada

THE CANADIAN OIL SEEDS PROCESSING INDUSTRY, by W. D. McFarlane, director of research, Victory Mills, Ltd., Toronto. *Agricultural Institute Review*, Sept. 1948.

A good account of the Canadian oilseeds processing industry. There are 13 mills in Canada having a processing capacity of 375,000 long tons annually. They operate on flaxseed, peanuts, copra and other vegetable oil-bearing materials in addition to soybeans.

DISEASES

In China

Iowa workers with soybean diseases have found two different members of the genus Diaporthe: *Diaporthe phaseolorum* var. *sojae* and *Diaporthe phaseolorum* var. *batatatis*. The latter variety actively attacks soybean stems, girdling them and causing the plants to wilt and die. The former did less damage, attacking mainly mature plants.

HETERO- AND HOMO-THALLIC TYPES OF DIAPORTHE ON SOYBEANS. A. W. Welch and Joseph C. Gilman, Iowa Experiment Station. *Photopathology*, Aug. 1948.

China

SEED-BORNE DISEASES OF SOYBEAN. By Sih-Tsing Liu. *Botanical Bulletin of Academia Sinica*. Vol. 2.

A number of soybean diseases on material collected at Nanking, Peiping, Sian and Chengtu in the years 1945-47 are described. They include: pod and stem blight, purple speck, cercospora leaf spot, anthracnose, phyllosticta leaf spot, alternaria leaf spot, pod blight, diplodia black dot, mycosphaerella leaf spot, rhizoctonia root rot and helminthosporium leaf spot.

MISCELLANEOUS

Seed Treatment

TREATING OF SOYBEAN SEED RESULTS IN BETTER STANDS. By Howard W. Johnson, senior pathologist, division of forage crops and diseases, USDA, Stoneville, Miss., in *Mississippi Farm Research*.

It appears from the results obtained at Stoneville that treating soybean seed with a suitable chemical seed disinfectant before planting will result in better stands. If the seed is of poor quality, this may mean the difference between a good and a poor stand.

But where inoculation is needed to obtain good nodulation of the soybean roots, seed treatment should not be practiced until more information is available on the compatability of various disinfectants and inoculants.

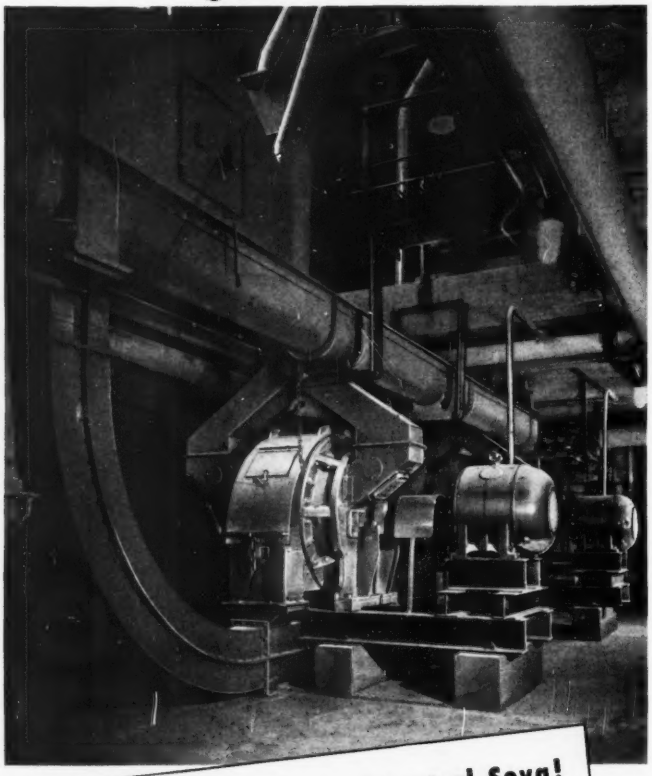
Defoliation

COTTON DEFOLIATION IN ARKANSAS. By W. H. Tharp, physiologist, *Leaflet 93*. Extension Service, University of Arkansas, Fayetteville, Ark.

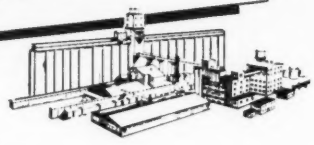
Chemicals which make cotton plants shed their leaves have been widely heralded in recent years. Facts known to date about the subject are assembled in this leaflet for Arkansas farmers. Some are also applicable to defoliation of soybean plants.

SPECIALIZED EQUIPMENT FOR THE SOYBEAN INDUSTRY — In the laboratories of Allied Mills, Inc., Central Soya Co., V. Drackett Co., Ohio Dept. of Agriculture, Spencer Kellogg & Sons, A. E. Staley Mfg. Co., you find modern equipment by Laboratory Construction Co., specialists serving the soybean and feed industry over 20 years. Whatever you need — equipment for protein, fat or fiber determinations . . . specialized tables . . . acid-proof sinks . . . carts — it will pay you to get in touch with Laboratory Construction Co. Plans and estimates are free for those building new laboratories, large or small; literature on all "Labconco" equipment is available on request. Write today to **LABORATORY CONSTRUCTION CO., 1113 Holmes Street, Kansas City, Missouri.**

THE PRATER *DUAL-SCREEN* PULVERIZER



Standard Equipment at Central Soya!



● A leader in the development of the solvent process of extraction, Central Soya Co., has contributed much to the improvement of equipment used in the process. The design of the Prater Dual-Screen Pulverizer, for example, is based to a considerable extent upon the recommendations of people who **know** the solvent process.

As a result, the Prater Dual Screen Pulverizer is standard equipment at Central Soya's Solvent Extraction Plants at Gibson City, Illinois; Decatur, Indiana, and Marion, Ohio.

If you are working with this process, it will pay to standardize on the equipment that's built to do the job most efficiently and economically. Write: Prater Industrial Products, 1527 South 55th Court, Chicago 50, Illinois.

PRATER PULVERIZERS

CANADIAN GROWERS BALLOT

Ballots on the soybean marketing scheme have been mailed to some 1,700 southwestern Ontario bean growers as part of the Ontario Soybean Marketing Scheme, according to George F. Perkins, marketing commissioner for the Ontario Farm Products Marketing Board, as reported by the *Toronto Star*.

The scheme under which every grower of soybeans in Ontario is entitled to vote enables a group of grower representatives to bargain with Ontario soybean processors over the price of Canadian-grown soybeans.

What the growers hope to do is to discuss prices with processors of soybean oil and the government at Ottawa and establish a formula whereby both growers and processors will be protected from foreign off-shore oil imports until such time as the Ontario soybean crop is marketed.

In the past year, processors have balked at paying the U. S. price equivalent for beans because of cheap government-subsidized peanut oil which was just waiting to get into Canada from South Africa and other countries where the oil was produced by people who didn't wear clothes or shoes, and who could produce oil cheaper than it can be produced in Canada.

Legalized sale of margarine in Canada offers another outlet for soybean oil and farmers who grow soybeans now have an outlet for their product which they did not enjoy 6 months ago.

—sbd—

HEADS BOARD OF TRADE

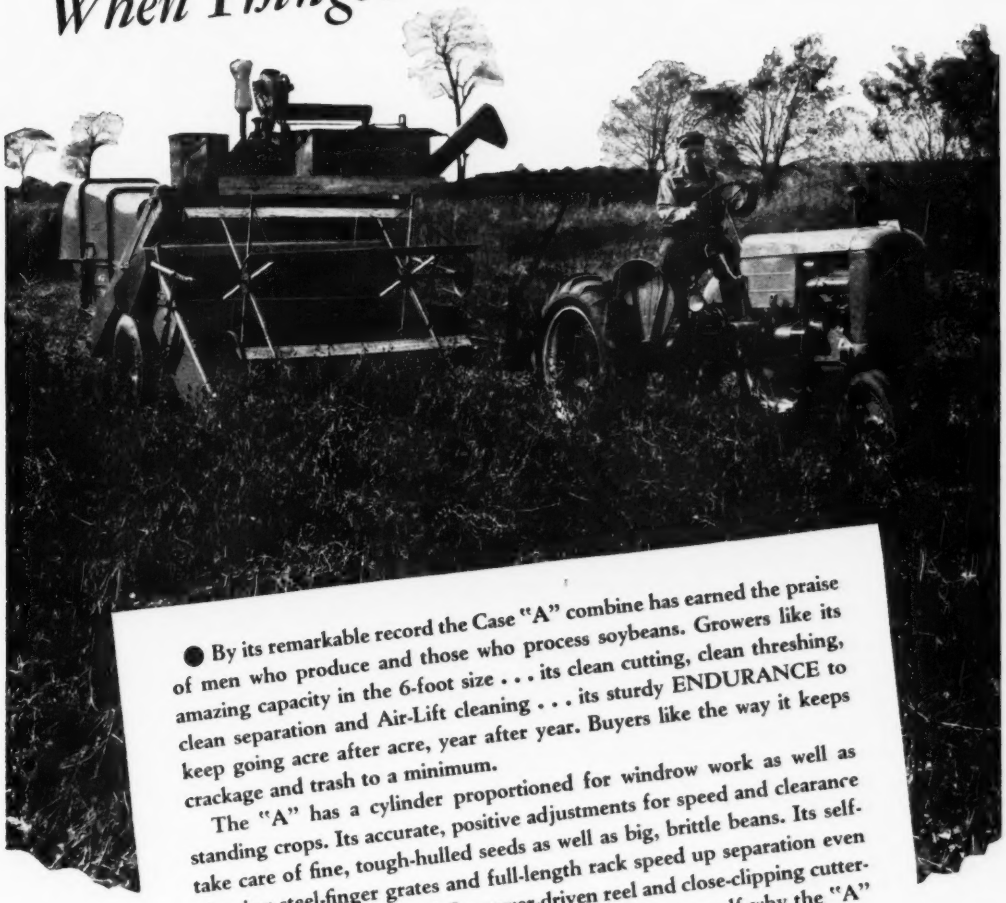
Richard F. Uhlmann, president of the Uhlmann Grain Company, was reelected to succeed himself as president of the Chicago Board of Trade in the annual election held January 10.

Carl E. Bostrom, assistant secretary of Lowell Hoit & Co., was elected first vice president, and Sylvester J. Meyers, vice president of Arcady Farms Milling Co., was elected second vice president.

In a contest among six candidates for five seats on the board of directors for three year terms, the following were elected: Homer Hargrave of Merrill Lynch, Pierce, Fenner & Beane; John R. Murray of Quaker Oats Co.; Thomas A. Liston; William F. Rowley of Daniel F. Rice & Co.; and John E. Brennan of the firm bearing his name.

Tops for Soys . . .

When Things Are Good or Bad



● By its remarkable record the Case "A" combine has earned the praise of men who produce and those who process soybeans. Growers like its amazing capacity in the 6-foot size . . . its clean cutting, clean threshing, clean separation and Air-Lift cleaning . . . its sturdy ENDURANCE to keep going acre after acre, year after year. Buyers like the way it keeps crackage and trash to a minimum.

The "A" has a cylinder proportioned for windrow work as well as standing crops. Its accurate, positive adjustments for speed and clearance take care of fine, tough-hulled seeds as well as big, brittle beans. Its self-cleaning steel-finger grates and full-length rack speed up separation even with wet or weedy material. Its power-driven reel and close-clipping cutter-bar do their bit to save every possible pod. See for yourself why the "A" ranks so high with growers who know combines best. See your Case dealer. J. I. Case Co., Racine, Wis.

CASE

HARVEST MACHINERY FOR 106 YEARS

GRITS and FLAKES... FROM THE WORLD OF SOY

Harry Ferguson, Inc., has announced the appointment of J. L. Gilliam as implement purchasing agent and Dave Milligan to assistant director of procurement in charge of implements.

* * * *

Clyde F. Scott, manager of the Bemis Bro. Bag Co. Kansas City plant for 30 years, retired Jan. 1. He will remain as senior counselor. He is succeeded by Howard L. Bayne, assistant manager since 1923.

* * * *

F. D. Phillips has been made manager of the Kimbell Oil Mill, Sherman, Texas, succeeding R. H. Goble, who continues with the mill as seed buyer. Phillips was formerly manager of the Durant Cotton Oil Mill, Durant, Okla.

* * * *

W. K. Martak has been promoted to manager of the Southern Cotton Oil Co., Memphis, Tenn., succeeding D. M. Berry. Martak has been with the firm 16 years.

* * * *

William Grant Manire, well known independent broker in cottonseed and soybean oil meal futures, died recently at Memphis, Tenn. He was associated with E. T. Lindsey for many years.

* * * *

Ernest L. Wilkins retired as head of specialty sales for Chase Bag Co.'s Goshen branch Dec. 31 after 42 years of service in the firm's specialty divison.

* * * *

Norman E. Dewes has been promoted to assistant director of formula feeds in charge of sales of General Mills, Inc., Minneapolis. He will serve under C. B. Anderson, director.

* * * *

Dr. John R. Clopton, well known chemist in the field of fats and oils, has joined the department of scientific research and technical development of Pillsbury Mills, Inc., at Minneapolis, coming from the Texas Research Foundation, Renner, Tex. He will be associated with Ralph A. Marmor under the direction of Warren H. Goss.

* * * *

John W. Eshelman & Sons, Lancaster, Pa., has issued an illustrated calendar dedicated to American farm women.

* * * *

Reginald Hale has resigned as plant superintendent of Muscatine Processing Corp., Muscatine, Iowa. He will operate a small soybean extraction plant under the name of Angola Soya Co., Angola, Ind.

* * * *

February issue of *Life & Health*, Washington, D. C., published an article on soy sprouts, with recipes.

* * * *

A memorial gift of over $100,000 to Miller Memorial Hospital, St. Paul, Minn., in memory of Shreve M. Archer, late president of Archer-Daniels-

JOINS ANDERSON CO.

DR. JOHN W. DUNNING

The V. D. Anderson Co. of Cleveland, Ohio, has announced the addition of Dr. John W. Dunning to its staff as research director. In his new capacity Dr. Dunning will head up all research being done in Anderson laboratories and pilot plants on problems associated with the solvent and expeller processes for extraction of vegetable oils and animal fats.

Dr. Dunning is widely known in the vegetable oil field. For 4 years he was connected with the Anderson-Clayton Co. working in chemical research and process development directed to the utilization of cottonseed oil mill by-products. He later served with the U. S. Department of Agri-

327 So. La Salle St., Chicago 4, Ill. Phone: Harrison 7-5244

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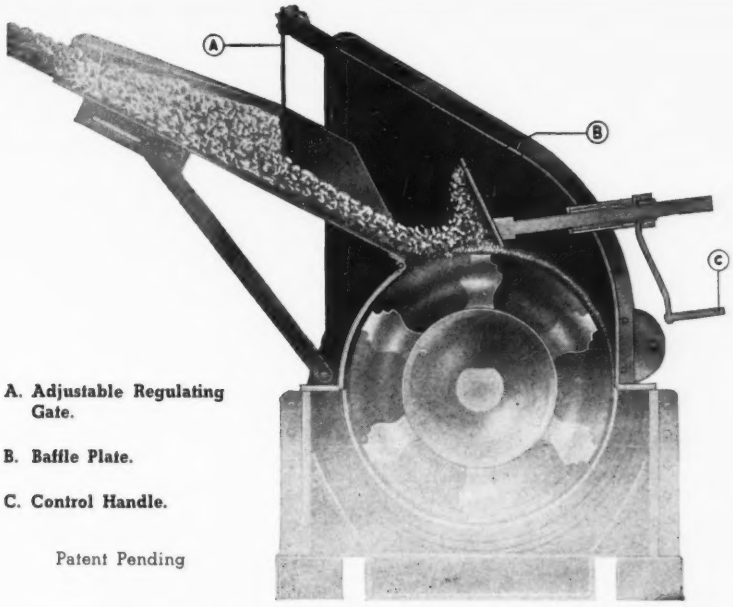
ROESLING, MONROE & CO.

BROKERS

CRUDE AND REFINED VEGETABLE OILS

CARL H. SMITH GEO. K. DAHLIN LARRY K. DROOM

A TRIAL WILL CONVINCE YOU OF OUR SINCERITY AND ABILITY TO SERVE YOU WELL
PLEASE PHONE OR WIRE FOR PROMPT RESULTS



A. Adjustable Regulating Gate.

B. Baffle Plate.

C. Control Handle.

Patent Pending

JAY BEE PRESENTS THE "CONSTANT FEED CONTROL"

Available for JAY BEE Mills Now in Operation

After three years of extensive experiments and field tests, JAY BEE presents the "Constant Feed Control." Through its application, the operator may maintain absolute control of fineness, uniformity, and rate of feed for any material to be ground.

CONTROLS FEED VOLUME

By means of adjustable regulating gate ("A" above) and baffle ("B" above), incoming feed to the mill may be controlled as to volume. A steady material flow is thus maintained through the mill without overloading or underloading. This control gives an even power load and increases mill capacity up to 50% per applied horsepower, according to control users.

CONTROLS DISTRIBUTION

Fine threshed grain, ear corn, baled hay, as well as other materials, may be fed into a mill equipped with the control. Once in the mill, the material is spread over the hammers in an even layer which causes uniform hammer wear.

SUSPENSION GRINDING

Material fed into a JAY BEE Mill equipped with the "Constant Feed Control" is held IN SUSPENSION over the hammers by the baffle plate until the desired reduction is made, at which time the particles pass beneath the baffle and over the hammers to the screen.

There is no grinding against a rubbing plate or the screen. The "Constant Feed Control" confines grinding to the area indicated by the illustration above. Still, with 7/16-in. clearance between hammers and screen, many materials may be ground to powder fineness, cooler, and in greater quantities than ever before.

New JAY BEE Mills, Models U—UX—T—S—SW and W now ready for delivery equipped with the "CONSTANT FEED CONTROL."

Write for Folder SD-249.

J. B. SEDBERRY, Inc.

Franklin, Tennessee **Tyler, Texas**

Midland Co., Minn., has been made by his widow, Mrs. Doris C. Archer. Mr. Archer was chairman of the hospital's board of governors for 20 years.

* * * *

"The Drackett Co.: A Case Study—Another Example of How Consistent Advertising Pays Off," was an article in Dec. 31 *Tide*. Article is mainly concerned with Drackett products "Drano" and "Windex", but also mentions the industrial line of soy products that now accounts for major part of Drackett sales.

* * * *

Seedburo Equipment Co., Chicago, announces the appointment of N. R. Peine as special service representative. He is now making an extended trip through southern producing areas to further the understanding of modern grading and handling techniques.

* * * *

At Chase Bag Co.'s annual dinner held for its Kansas City branch employee members of the Quarter Century Club, Bertha Heckman and her daughter, Violet Williams, were honored for having reached the 25-year mark of service with Chase. Never before had two generations of the same family won this distinction at the same time.

* * * *

Officers reelected at the recent annual meeting of the Big 4 Cooperative Processing Association, Sheldon, Iowa, were: Edw. Dobbertin, Paullina, president; Doores Waanders, Hull, vice president; L. M. Penning, Ashton, secretary; and Paul Vetter, Lake Park, and Arie Gaalswyk, Rock Valley, members of the executive board.

* * * *

Winter 1949 issue of *Progress thru Research*, General Mills, Inc. publication, devotes two pages of pictures to the General Mills Chemoil Plant at Kankakee, Ill., where the firm manufactures fatty acids and allied products.

* * * *

George W. Altorfer has been elected to the board of directors of Chicago Board of Trade to fill the unexpired term of S. J. Meyers who resigned as a director because of his election as second vice president.

* * * *

Bernard E. Friel has been appointed traveling representative for the M. A. McClelland Co., Kansas City. For the past 5 years he has represented Soy Products Co., Kansas City.

* * * *

Contractor for the new 250-ton-per-day soybean solvent extraction plant being built by the Glidden Co. at Indianapolis, Ind., is the chemical plants division of Blaw-Knox Co., Pittsburgh. Total project, which includes a large grain elevator is reported to cost 3 million dollars. Plant will be ready to process 1949-crop soybeans.

* * * *

Jan. 23 issue of *Champaign-Urbana Courier* (Ill.) had an interesting story on the work of the U. S. Regional Soybean Laboratory at Urbana.

* * * *

Mrs. Dorothy Lee Black, 30, secretary-manager of the Delta Council at culture doing research and process development work.

Dr. Dunning has had a number of publications, as well as several patents, credited to him in both chemistry and process development.

BUYS HAPPY MILLS

The Soyafeed and Oil Corp., of East St. Louis, Ill., has purchased the Happy Mills, Memphis, Tenn., manufacturers of Happy Livestock and Poultry Feeds at an undisclosed price.

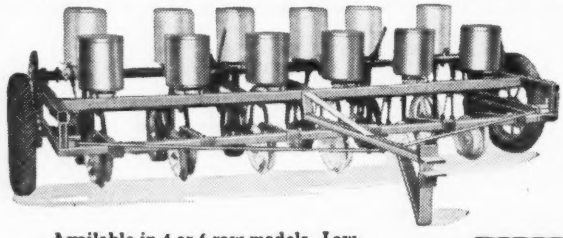
Under the contract of sale all manufacturing operations of the Happy Mills will be moved to East St. Louis, where Soyafeed already operates a large feed manufacturing plant and currently is building a 250 ton daily soybean extraction plant.

W. E. Metzger, formerly a partner and sales manager for Happy Mills, will be manager in Memphis.

PORTABLE ELEVATOR

This new portable light weight grain and ear corn elevator manufactured by Burrows Equipment Co., 1316-D Sherman Ave., Evanston, Ill., weighs only 100 pounds including the engine. The light weight is made possible by using aluminum alloy for its construction, but it is comparable to steel in strength and abrasive resistance. Sixteen feet long, it can be powered with either one-horsepower gasoline engine or one-half horsepower electric motor.

IT'S THE *DIAMOND* PRECISION PLANTER FOR *FAST, ACCURATE* PLANTING



SOY BEANS • BEETS • BEANS
ROW CORN

The Diamond Planter is an all purpose planter. Changes from different seeds are made quickly and easily. Thoroughly tested for accuracy and dependable performance. Rugged long life construction. Provides the features you want in a planter. Investigate Diamond 4 and 6 row Planters now.

Available in 4 or 6 row models. Low priced. Prompt delivery. Write today for bulletin.

DIAMOND IRON WORKS, INC.
AND THE MAHR MANUFACTURING CO. DIVISION
1714 N. 2nd Street Minneapolis 11, Minn.

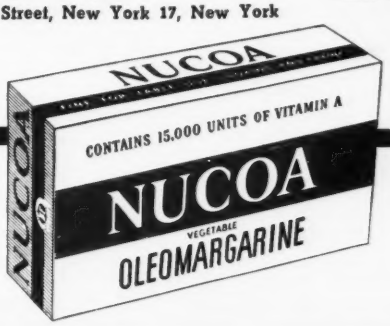
Your Market Grows Larger and Larger . . . with NUCOA

Every year the demand for wholesome margarine increases by leaps and bounds.* And year after year, Nucoa — America's largest-selling margarine — requires more and more of the nutritious soybean oil that you help to produce.

Why this big demand for margarine — and for the soybean oil that it uses? That's easy — America is fast recognizing the food value and goodness that come from one of the country's leading crops. So why not try Nucoa in your own home? You'll enjoy its fresh flavor. You'll appreciate how much it helps your budget.

The BEST FOODS Inc., 1 East 43rd Street, New York 17, New York

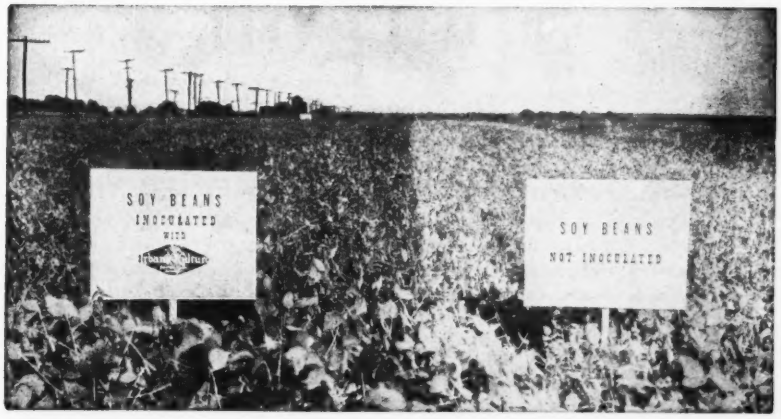
*From 302 million pounds in 1940 to more than 600 million in 1947!



INOCULATION for your Soy Beans

Urbana Culture Superior Legume Inoculator

Urbana Culture Superior Legume Inoculator



Inoculate with Urbana Culture and efficiently utilize the free nitrogen of the air.

Prepared only by **THE URBANA LABORATORIES** Urbana, Illinois

Stoneville, Miss., for 7 years, died recently at a Greenville, Miss., hospital. She was nationally known for her handling of Delta Council affairs.

* * * *

Schieffelin & Co., New York, is marketing an assortment of South Sea Island delicacies that have been featured by the Trader Vic Restaurant in San Francisco, including a soy sauce.

* * * *

The board of directors of General Mills, Inc., has approved the appointment of Eugene Woolley as vice president of the chemical division. Woolley is manager of the company's Belmond, Iowa, soybean processing plant.

* * * *

John F. Corwin has resigned from the chemical division (formerly Casein Co. of America division) of the Borden Co., Bainbridge, N. Y., effective January 31. He has been chemical director.

* * * *

A new step has been taken in the field of glamorizing the cotton flour and feed bag for home sewing purposes by Bemis Bro. Bag Co. which now offers bags of vat-dyed solid colors in pastel shades.

* * * *

December issue of *Minnesota Technolog*, University of Minnesota Institute of Technology publication, features an article by J. Richard Andre, chemical engineering senior, on "Soya Bean Oil." Pictures were furnished by Archer-Daniels-Midland Co.

* * * *

Bruce Edgar, Sanborn, Minn., elevator manager, was one of five to be given framed certificates of recognition by the Minnesota Crop Improvement Association at the annual premier seed grower banquet at Minneapolis, January 19.

DURKEE MANAGER

ELMER L. WEBER

Elmer L. Weber has been promoted to the position of manager of the Norwalk, Ohio, division of Durkee Famous Foods, according to announcement by Dwight P. Joyce, Glidden Co. president. He will have full responsibility for all operations of the Norwalk division which manufactures Durkee's margarine, salad dressing, mayonnaise and other food products. Weber has been with Glidden 7 years, the past 2 as general sales promotion manager for Durkee, a division of Glidden.

Hawkeye · Lincoln · Chief

SOYBEANS

TREATED WITH

Spergon

Reg. U. S. Pat. Off.

SEED PROTECTANT

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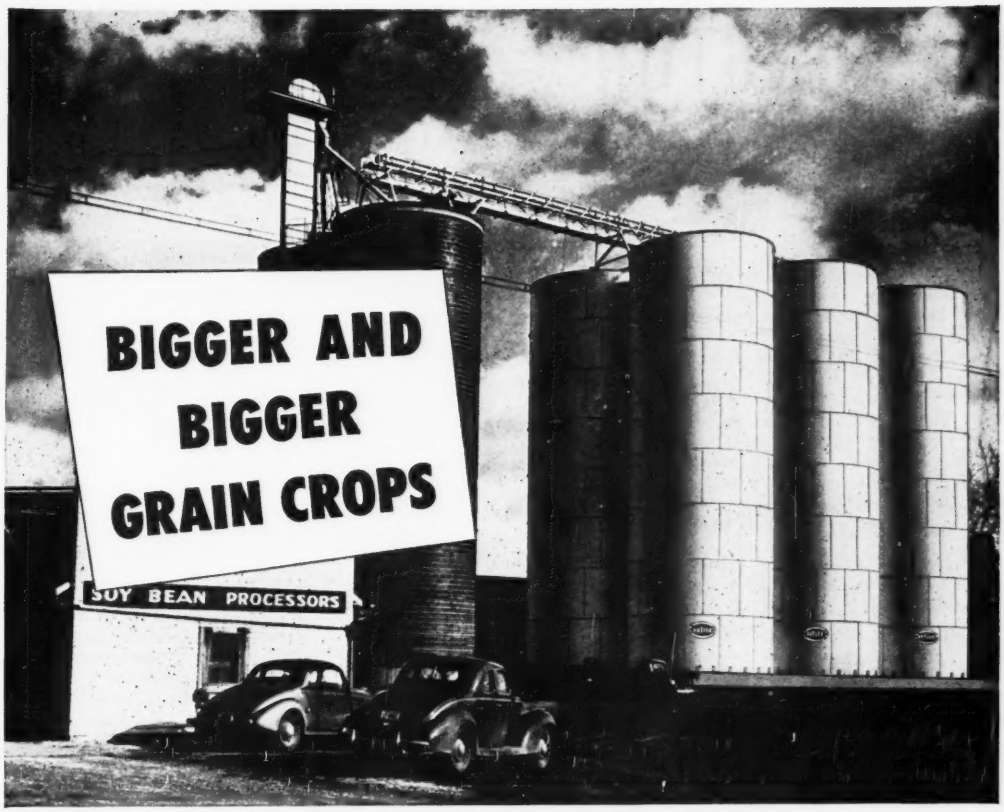

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WASHINGTON Digest

PRICE SUPPORT. Soybeans either will be added to the list of basic commodities for purposes of price support, or will be given the same treatment as basic crops in new price legislation to be drafted.

This is an impression you get here, but it's a strong one. There is plenty of backing for the move, both in USDA and in Congress. No vocal opposition to it has become evident so far.

PMA officials want one or the other. They would prefer the second approach — according soybeans the same price treatment as corn, wheat, and cotton. They hesitate to throw the basic commodity list wide open for fear of pressures to include many other crops.

The same is true of farm leaders in Congress. They are willing to add a few more crops to the basic list, but they feel a line has to be drawn somewhere.

Soybeans are the one crop that's nearly always mentioned for the same treatment as basics. Wool might be included, and possibly flax.

Soybeans have one big advantage in that the political interest now embraces both the North and the South. With expansion of soybeans into the South in recent years, Southerners have become interested in the crop politically.

This is highly important where political action is concerned at this time. Among the Democrats, Southerners control both the House and Senate agriculture committees where new legislation will originate.

Congressman Gathings of Arkansas already has introduced a bill to give soybeans 90 percent of parity price support.

His bill would make all of the provisions of the AAA Act of 1938 apply to soybeans, as far as loans and other price support operations are concerned.

This would have virtually the same effect as making soybeans a basic crop. It would make soybeans eligible for a high support price; also for acreage allotments and marketing quotas.

The Gathings bill may not pass in its present form. But adoption of a measure similar to it seems probable when the new price support legislation is finally whipped into shape.

The outlook is still for 90 percent of parity price floors for the basic crops. Southerners are going to demand this, whether the Administration goes along or not.

In his first appearance before the Senate agriculture committee, Secretary of Agriculture Brannan didn't give a hint as to where he stands on the level of price support.

He spoke only in generalities. He carefully sidestepped taking any side in the controversy between 90 percent of parity wanted by Senator Thomas of Oklahoma, and flexible 60-90 percent of parity supports wanted by Senator Aiken of Vermont.

Brannan gave the Senators the impression he was walking a tight rope between Thomas and Aiken—between "high" versus "low" price floors.

More U. S. farms grow soybeans than grow at least three of the crops now on the basic list, the following USDA table reveals. It is based on the 1945 census and, covering all farms in the nation, indicates the relative importance of the soybean crop.

By PORTER M. HEDGE

Washington Correspondent for The Soybean Digest

Crop	Farms Reporting	Percent of All Farms
Rice	10,510	0.2
Soybeans grown alone	683,061	11.7
Peanuts grown alone	309,021	5.3
Tobacco (harvested)	490,585	8.4

This data is based on 1944 crops and is the latest available. Later figures would be more favorable to soybeans. Since 1944 the number of farmers growing soybeans has materially increased. The number growing the other crops shown has stayed about the same or decreased.

SOYBEAN EXPORTS. There is a pretty fair prospect of fats and oils export allocations being increased.

Final authority for approving export allocations is expected to be taken out of the hands of Commerce Department and given to the President.

A bill to do this has been drafted in the Senate for incorporation in the law to extend export controls.

Effect of the bill would be to put export allocations for fats and oils more nearly in line with the recommendations of the Department of Agriculture.

For the most part, USDA recom-

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mended allocations have been higher than those finally approved by Commerce Department, where veto power over exports now rests.

If the President is given direct responsibility for passing on export allocations, it's believed he will follow closely the recommendations of USDA as far as agricultural products are concerned.

The whole immediate price future of soybeans is tied up with what's done about exports. ECA officials maintain there is still a big effective demand for fats and oils, especially soybeans, and that funds are available for shipping more than has been allocated so far.

An additional export allocation of 35 million pounds each of soybean oil, cottonseed oil and lard were approved as the *Digest* went to press. All but 14,600 pounds of soybean oil are for commercial procurement.

The new allocations inaugurate a somewhat more liberal policy on fats and oils exports than has been in effect in recent months.

Inedible fats and oils were removed from export allocation control February 1. Prospect is that edible fats will remain under allocation but that real authority for decision on volume of exports will be vested in USDA one way or another.

One plan under consideration is to give USDA authority to declare how much is in surplus. Commerce Department would then have to make allocations in line with the surplus available. Either this plan or letting the president make final decisions on allocation would put the real authority over volume of exports in the hands of USDA. One plan or the other is pretty sure to go through if edible fats and oils are not decontrolled.

ALLOCATIONS. The 6 million bushels of soybeans in the supplemental export allocation for the January-March quarter brings the total for this season to approximately 18 million bushels of seed.

Last fall, before the final increase in the soybean crop was reported in December, it appeared that something like 20 million bushels of seed might be approved for export during the marketing year.

While it's strictly unofficial, it's not unreasonable now to anticipate that the total seed to be shipped for the year would reach 25 to 30 million bushels.

There are still two more quarters of the year to go. Strong pressures are being brought upon Congress and the Administration to remove fats and oils from export controls this winter.

While the industry generally does not anticipate that this will be done, it does expect to gain some concessions in the way of increased fats and oils exports for the balance of the season.

ECA, the European Recovery agency, insists there is a far greater demand for fats and oils than it can satisfy, and that it has the funds with which to buy.

With a period of price deflation apparently beginning to set in—at least temporarily—it's entirely possible the Administration (specifically the Commerce Department) may loosen up on exports somewhat.

A total of 109 million pounds of fats and oils were approved for export in the supplemental allocation for the first quarter of 1949. Beside the 6 million bushels of soybean seed, 9.3 million pounds of soybean

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oil, or about a million bushels of seed, were allocated.

The soybeans were destined for Belgium, Germany, Denmark, Greece, Italy, the Netherlands, and Canada; the oil for Austria, Cuba and Canada.

The allocation included 30 million pounds of lard, 2.2 million pounds of cottonseed oil, 5.5 million pounds oil equivalent of shelled peanuts, and 5 million pounds of unspecified fats and oils.

In terms of actual shipments, fats and oils exports in this quarter could be the largest of any quarter in the year. While practically all of the fats and oils allocated last quarter were licensed for export, actual shipments have lagged.

Shipments during the present quarter may include allocations running as far back as early last fall. To the extent that this increases the cash demand for fats and oils, markets are expected to benefit.

MARGARINE REPEAL. Repeal of federal taxes and license fees on margarine is in the bag, and is expected to come by April.

Margarine forces know they now have the necessary votes. Dairy interests see the handwriting on the wall.

The Administration bills are HR 3 by Congressman Poage of Tex., and S 367 by Senator Fulbright of Arkansas. They leave only one restriction on margarine—servings in public eating places have to be so labelled.

MEAL PICTURE. USDA officials anticipate that the price of oilseed meals will be easing off by early spring. Exports have been relatively slow all fall and early winter.

During the last quarter of 1948, 225,000 long tons of meal and cake were allocated for export. More than 100,000 tons of this were not licensed, and this total has been re-allocated for export during the January-March period.

—sbd—

VESTAL

(Continued from page 19)

bone meal or defluorinated phosphates.

Besides supplying adequate calcium and phosphorus in the ration supplemented with soybean oil meal or other vegetable protein feeds, we must not overlook the deficiency of these feeds in the elements of common salt. Soybean oil meal contains these elements in the equivalent of about .06 percent of salt, which is roughly 15 to 20 times less than the salt content of the most commonly used animal protein feeds. Recent experiments at Purdue show that salt is a chief nutritional deficiency of soybean oil meal for swine. This deficiency is best controlled by giving the hogs free access to salt.

While soybean oil meal is an efficient single protein supplement, its most important use in swine feeding is as a major ingredient of efficient supplemental mixtures. Its abundant supply and high value as a base for mixed supplements gives it top rank among the protein-rich feeds for practical swine production. During the war years it served as a principal factor in making possible a large volume of efficient pork production and in a wider distribution of the animal protein feeds which were deemed vital to efficient reproduction and growth of swine on our farms.

In a recent survey of leading soybean growers from an important soybean state, 91% said they always inoculate soybeans before planting. Among those who expressed a preference, NITRAGIN led all other brands of inoculants by almost 3 to 1. NITRAGIN has been the preferred inoculant for years . . . it boosts yields and saves soil fertility. The healthy root systems of legumes inoculated with NITRAGIN help the plants take free nitrogen from the air to enrich the land . . . to give you higher yields of richer hay and pastures. You can't afford to gamble with seed, land and time. It takes only a few minutes . . . costs only a few cents an acre to help assure success with soybeans. Protect your investment . . . always inoculate with NITRAGIN. Ask your seedsman for the "inoculant in the yellow can."

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We invite the readers of THE SOYBEAN DIGEST to use "MARKET STREET" for their classified advertising. If you have processing machinery, laboratory equipment, soybean seed, or other items of interest to the industry, advertise them here. Rate: 5c per word per issue. Minimum insertion $1.00.

FOR SALE—Anderson Expellers all models, as is or rebuilt for specific materials. Pittock & Associates, Moylan, Penna.

AVAILABLE—Plant engineer with twelve years' experience in construction, operating, and maintenance phases of solvent extraction and allied systems. Best references. Send all replies to Box 319B SOYBEAN DIGEST, Hudson, Iowa.

FOR SALE—John Deere 4 row, 4 large hopper non-fertilizer soybean drill. 24 in. rows. Steel wheels, tractor hitch, splendid shape. Ready to go. $110.00. A. Ehresman, Payne, Ohio.

FOR SALE—Certified hybrid seed corn, Clinton oats, Hawkeye & Lincoln soybeans. Farmer agencies available. J. R. Spar & Son, Ada, Ohio.

WANTED—Experienced vegetable oil trader, for connection with established merchandising concern in midwest. In reply state age and experience. Box 319 A, Soybean Digest, Hudson, Iowa.

FOR SALE—Certified Hawkeye soybeans, bagged, tagged. Outyielded all varieties past 3 years at Illinois College of Agriculture. $5.00 per bushel. Donald R. Ziebart, Wellington, Illinois.

FOR SALE—Indiana state blue tag Certified Hawkeye soybean seed. Edward Lehman, Wolcott, Indiana.

SEED DIRECTORY

A charge of $2 will be made to subscribers for listing in the March and April issues. Quantity for sale and variety are included.

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Burdette—Hale Seed Farms, 7,000 bu. certified Ogden.

ILLINOIS

Anchor—Elmo Meiners, Meiners Grain & Coal, 800 bu. certified Hawkeye.

Annawa—Mell Powell, 500 bu. certified blue tag Hawkeye.

Armington—Raymond Schmidgall, 625 bu. certified Hawkeye.

Atlanta—Mountjoy Hybrid Seed Co., 1,000 bu. certified Hawkeye.

Bethany—Curtis Camic, Rt. 2, 200 bu. certified Hawkeye.

Blue Mound—George Hadden, Rt. 2, 500 bu. certified Hawkeye, purity 99.7 in 2-bu. bags.

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Chenoa—Clifford W. Gentes, certified Hawkeye.

Concord—C. Otto Nickel, 625 bu. uncertified Hawkeye.

Fairbury—Fairbury F. F. A., high school, 400 bu. certified Hawkeye.

Fairbury—Douglas Kinzer, Rt. 1, 425 bu. certified Hawkeye.

Fithian—James R. Marron, Rt. 1, 400 bu. certified Hawkeye.

Manteno—James J. Gorman, 300 bu. certified Hawkeye.

Hoopeston—Russell Bros., 250 bu. certified Hawkeye.

Laura—F. M. Oakes, 850 bu. certified Hawkeye.

Maple Park—Lowell D. Oranger, Rt. 2, 1,200 bu. certified Hawkeye.

Mendota—S. F. Beetz & Sons, Rt. 1, 250 bu. certified Hawkeye.

Monmouth—Perry W. Beal, Rt. 3, 500 bu. certified Hawkeye.

Oakland Park—James Tilsy, 167 St. and 118 Ave., 1,000 bu. certified Hawkeye; 600 bu. certified Lincoln; 300 bu. certified Earlyana.

Palatine—Wm. Rohlwing, Rt. 1, 200 bu. certified Hawkeye.

Plainfield—Graeme Stewart, Willow Gate Farm, Rt. 1, 700 bu. certified Hawkeye.

Pontiac—Pike Hybrid Corn Co., carload lots certified Hawkeye.

Princeville—Rolling Acres Farms, Rt. 1, 850 bu. certified blue tag Hawkeye.

Princeville—Dana Stewart, Stewart Hybrids, 400 bu. certified Hawkeye.

Roseville—William W. Foreman, Rt. 1, 250 bu. certified Hawkeye in 2-bu. bags.

Roseville—Samuel E. LaGrow, Box 384, 1,000 bu. certified Hawkeye.

Roseville—V. T. Twomey, Rt. 1, 2,000 bu. certified Lincoln.

Sciota — G. Wayne Welsh, 1,000 bu. certified Hawkeye.

Sciota—Max H. Welsh, 800 bu. Hawkeye eligible for certification.

Steward—Blaine Allen, 500 bu. certified Hawkeye.

Stronghurst—John Johnson, Box 19, 300 bu. blue tag certified Hawkeye in new 2-bu. bags; 275 bu. blue tag certified Lincoln in new 2-bu. bags.

Tonica—Merlin W. Lambert and Wilfred Strack, Rt. 1, 500 bu. certified and tagged Hawkeye.

Ursa—Frank W. Lewis, 800 bu. certified Hawkeye; 1,500 bu. certified Lincoln; 700 bu. certified Viking; 800 bu. certified Clinton oats No. 11.

Wellington—Donald R. Ziebart, Rt. 1, 500 bu. certified Hawkeye.

Witt—Witt Elevator, 3,000 bu. uncertified Chief; 3,000 bu. uncertified Lincoln.

Woodstock—Pell-Bari Farms, Inc., 5,000 bu. certified Hawkeye; 10,000 bu. non-certified Lincoln.

INDIANA

Anderson—Roy Scott, Rt. 5, 200 bu. certified Hawkeye, 300 bu. certified Lincoln.

Lapel—Omer J. Sears & Sons, 300 bu. Lincoln; 200 bu. Hawkeye.

Pendleton—Ralph Williams, Rt. 3, 400 bu. certified Hawkeye.

Remington—Glenn L. Kinsell, Silver Lane Farms, 7,000 bu. certified Lincoln; 2,000 bu. certified Richland; 1,500 bu. certified Hawkeye.

Valpraraiso—L. K. Wyckoff, Wyckoff Hybrid Corn Co., Rt. 3, 1,800 bu. certified Earlyana; 500 bu. certified Richland; certified Hawkeye.

Windfall—Mitchell Farms, 500 bu. certified Earlyana; 1,200 bu. certified Hawkeye; 3,000 bu. certified Lincoln.

IOWA

Charles City—Sar Seed Farms, 2,200 bu. uncertified Earlyana.

Hudson—Strayer Seed Farms, Bansel and Lincoln.

Remsen—Frank Lenertz, certified Lincoln, 93% germination in 2-bu. bags; 2,500 bu. certified Benton oats; 2,500 bu. certified Clinton oats; Mantalm barley.

KANSAS

Florence—Ernest Waner, Rt. 1, 500 bu. certified Hong Kong.

MINNESOTA

Faribault—Farmer Seed & Nursery Co., 56 E. 35th St., 350 bu. certified Flambeau; 1,600 bu. certified Ottawa Mandarin; 900 bu. uncertified Manchu (Wis. 606); 300 bu. certified Hawkeye.

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St. Louis 2—Valley Farms and Cypress Land Farms, 314 Merchants Exchange Bldg., Rickard Korean, Lincoln, Hawkeye, S100, Loredo.

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Oriental—Lindley Farms, 2,000 bu. Roanoke.

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Ada—J. R. Spar & Son, Rt. 1, 1,000 bu. certified Hawkeye.

Avery—J. Schlessman & Sons, 300 bu. certified Hawkeye; 800 bu. certified Lincoln; 200 bu. certified Earlyana.

Covington—Raymond Ebberts, Rt. 2, 500 bu. Ohio certified Hawkeye; 500 bu. Ohio certified Lincoln; 100 bu. Ohio certified Richland.

Findlay—Russell Bishop, Rt. 4, 600 bu. certified Hawkeye.

Milford Center—H. M. Bishop, 900 bu. certified Hawkeye.

Troy—Bert Favorite & Sons, Rt. 1, 1,000 bu. certified Hawkeye.

WISCONSIN

Osceola—I. W. Lundberg, Box 86, 125 bu. certified Flambeau.

Beloit—Edgar Huebbe, Rt. 3, 110 bu. certified blue tag Hawkeye grown from foundation seed.

—s b d—

RELEASE MONROE VARIETY

Seed of a new soybean variety—Monroe—is being allotted in Ohio for 1949 plantings in producing certified seed, announces Dr. Lewis C. Saboe, of the department of agronomy of the Ohio Agricultural Experiment Station and the U. S. Department of Agriculture.

The new variety is an early maturing soybean especially adapted to northern Ohio where its earliness permits timely seeding of winter wheat. It is 5 days earlier and stands better than Earlyana, and is very similar to that variety in height, yield, oil and protein content. Monroe is 4 to 5 inches taller than Richland, matures about 10 days earlier and yields as well.

Monroe soybeans were developed from a cross of Mukden and Mandarin varieties made at Urbana, Ill. in 1937.

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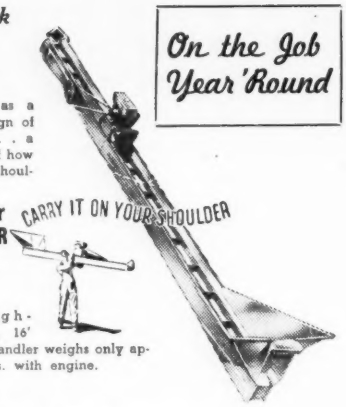

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In The MARKETS

FURTHER MARKET WEAKNESS

Weakness in soy products markets continued after the first of the year and lasted through January. There were declines in soybeans, meal and oil, but the spread was relatively narrow, the general uncertainty prevailing in farm markets being reflected here.

Soybean oil dropped to the lowest point since the removal of OPA price ceilings.

Processors were poor buyers of soybeans due to the lower trend in oil and oil meal. Bureau of Agricultural Economics reported record supplies of livestock feeds of all kinds on farms January 1.

There was uncertainty over the future of price legislation in the new Congress.

Commodity Credit Corporation purchases of soybeans during January brought the total bought to date to 3,172,052 bushels. The government announced further allocations of soybeans and oil for shipment abroad.

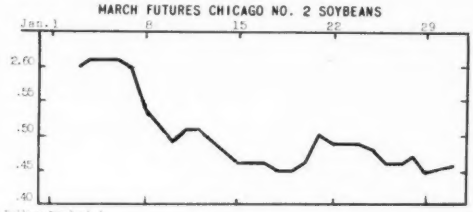
Chicago No. 2 soybeans for March opened at $2.60 and closed at $2.45 for the month. High was $2.61 Jan. 4-6, and low was $2.45 Jan. 18-19.

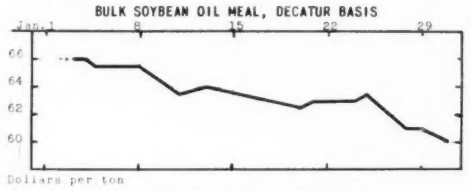
Bulk soybean oil meal Decatur basis opened at $66 for the month—also the month's high—and closed at $60, the low.

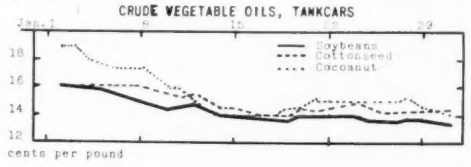
Crude soybean oil in tankcars opened at 16c, the month's high and closed at 13¼c, the low.

Production of soybean oil meal was at or near capacity but all was applied on previous orders. Production of 44% protein meal by the solvent extraction process was said to be greater than in the past, with supplies more available than was true of the screw press meal.

NEW YORK SOYBEAN OIL FUTURES JAN. 31*
Close: Mar. and May 15.00B. July and Sept. 14.75B. Oct. Dec. plus Jan. 13.25B.







MEMPHIS FUTURES CLOSINGS JAN. 31*

Soybean Meal: Mar. flat 60.00, May flat 56.50, July 54.50-55.50, Oct. 48.25-50.80, Dec. 47.50-49.50, sales 1,000 tons. *As reported by Chicago Journal of Commerce.

• STOCKS OF SOYBEANS. Nearly 180 million bushels of soybeans were stored in all positions on Jan. 1, according to reports collated by the Bureau of Agricultural Economics. These stocks are the largest of record, exceeding the previous high mark on January 1, 1943 by about 10 million bushels.

The current total includes farm stocks of nearly 75 million bushels, second largest of record, and nearly 37 million bushels in interior mills, elevators and warehouses; both of these are estimates by the Crop Reporting Board. Commercial stocks of less than 15 million bushels at terminals, considerably less than usual for January 1, are reported by the Production and Marketing Administration. Stocks of over 53 million bushels at processing plants, as reported by the Bureau of the Census, were exceeded only on January 1, 1947.

STOCKS OF SOYBEANS, JAN. 1, WITH COMPARISONS

Position	Jan. 1 1947	Jan. 1 1948	Oct. 1 1948	Jan. 1 1949
		Thousand Bushels		
On Farms	37,374	51,679	1,838	74,590
Terminals	21,704	13,294	130	14,804
Processing Plants	59,610	48,900	[2]468	53,414
Int. Mills, Elev. & Whses.[1]	36,145	28,080	128	36,755
TOTAL	154,833	[2]141,953	2,564	179,563

[1]All off-farm storages not otherwise designated.
[2]Total stocks 5,341,000 bushels, adjusted to stocks of old soybeans.

OFF-FARM [1] STOCKS OF SOYBEANS, JANUARY 1, 1949, WITH COMPARISONS

State	Jan. 1 1948	Oct. 1, 1948	Jan. 1 1949
		Thousand bushels	
Ohio	8,824	237	9,230
Ind.	8,576	40	9,968
Ill.	31,894	97	38,956
Minn.	6,553	12	6,253
Iowa	14,847	39	17,586
Mo.	5,586	86	5,120
Va.	495	2	860
N. Car.	1,292	0	875
Ky.	2,703	2	2,764
Tenn.	2,172	3	2,245
Miss.	709	1	579
Ark.	1,690	0	1,756
All other states	4,933	207	8,781
U. S.	90,274	726	104,973

[1] Includes stocks at processing plants, as enumerated by the Bureau of the Census; commercial stocks at terminals, reported by the Grain Branch, P.M.A.; and stocks in interior mills, elevators and warehouses, estimated by the Crop Reporting Board.

• SOYBEAN LOANS. The Production and Marketing Administration of the U. S. Department of Agriculture announces that 6,411,680 bushels of 1948-crop soybeans were placed under Commodity Credit Corporation price support loans through December 31. In addition, price support purchase agreements as of that date covered 4,065,410 bushels of soybeans.

1948 SOYBEANS UNDER PRICE SUPPORT PROGRAMS

State	Under Loan			Under Purchase Agreement
	Warehouse	Farm	Total	
	Bushels			
Arkansas		750	750	9,500
Delaware		403	403	
Illinois	481,590	501,490	983,080	1,536,656
Indiana	30,246	127,632	157,878	222,222
Iowa	2,518,078	1,216,700	3,734,778	1,524,308
Kansas		17,561	17,561	5,439
Kentucky		1,848	1,848	
Michigan		1,034	1,034	3,550
Minnesota	477,445	379,078	856,523	570,643
Mississippi	12,886		12,886	
Missouri	376,765	153,182	529,947	103,975
Nebraska	6,650	7,053	13,703	7,636
North Carolina		1,045	1,045	
North Dakota	4,485	6,639	11,124	13,238
Ohio	15,712	42,468	58,180	55,690
Oklahoma		592	592	
South Carolina		6,098	6,098	
South Dakota	2,923	19,594	22,517	13,153
Tennessee		1,733	1,733	
U. S.	3,926,780	2,484,900	6,411,680	4,065,410

MARIANNA SALES COMPANY

MEMPHIS 1, TENN.

Dealers in

Soybean and Cottonseed Products

Brokers in

Soybean and Cottonseed Meal Futures

Members

Memphis Merchants Exchange
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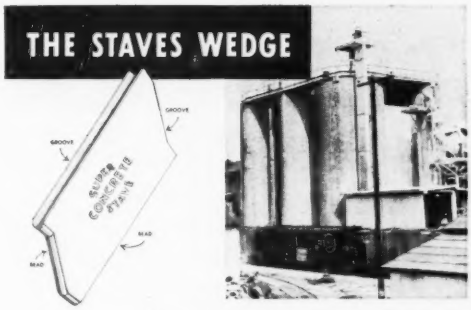
THE STAVES WEDGE



As you will see in the illustration of a Neff & Fry Super-Concrete Stave, the ends are mitered and the edges are grooved and beaded. Because of this patented design, each stave interlocks with six contiguous ones, forming a firm and symmetrical structure.

The ends of the staves are further supported by heavy galvanized steel rings drawn tight around the zigzag joints. Between these rings, as many others are placed as needed to resist the calculated lateral pressure.

Neff & Fry Bins are used for handling and storing aggregates, ashes, cement, chemicals, cinders, clay, coal, coke, fertilizer, grain, gravel, lime, limestone, minerals, ore, sand, sawdust, scrap, seeds, slag, water, wood pulp, and many other materials.

We'll be glad to give you the benefit of our 28 years' experience in engineering and erecting storage bins. Write, wire, or phone.

NEFF & FRY STORAGE BINS

FOR ALL SORTS OF BULK FLOWABLE MATERIALS

THE NEFF & FRY CO., Camden, Ohio

D. J. GUILLORY L. PAT LOBBAN
W. JACK CRUTCHER

Guillory Sales Company

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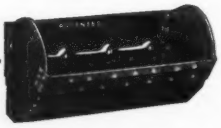
SOYA BEAN OIL AND MEAL

COTTON EXCHANGE BLDG.
Phones 5-5346 L.D. 451-446

Memphis, Tenn.
Members: New York Produce Exchange
Memphis Merchants Exchange

THE FACT STILL REMAINS THAT SUPERIOR ELEVATOR CUPS "DP" - "OK" - "CC" - "V" are MADE STRONGER will LAST LONGER have GREATER CAPACITY



and will operate more efficiently at less cost than other elevator cups.

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MOLINE, ILLINOIS

for names of distributors and analysis form No. 20

GREUTKER INCORPORATED

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BUFFALO 2, NEW YORK

Specializing in

Soybean Meal for the Mixing Trade

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Teletype BU 209

CALL:

Frank Greutker	MOhawk 6055
Jack Bowling	MOhawk 6032
Chris Greutker	MOhawk 2177
Burt Newell	MOhawk 7766

• SOYBEAN INSPECTIONS. The quality of the 1948 soybean crop, as indicated by the October-December inspections, is considerably below that of last season largely because of high moisture, according to reports to the Department of Agriculture. Only 73 percent graded No. 2 or better compared with 86 percent for the same months last year. Sixty-one percent fell into grade No. 2 or better in December.

Receipts of soybeans in December decreased seasonally to 6,265 cars compared with 15,841 cars in November and 35,861 cars in October. December inspections brought the total for the first three months of the season to 57,967 cars compared with 49,426 cars for the same period in 1947. The average for the month of December for the crop years 1942-46 was 5,468 cars.

Inspections of soybeans in December include the equivalent of 281 cars inspected as cargo lots and truck receipts equal to about 168 cars.

• GRAIN STOCK REPORTS. Production and Marketing Administration's commercial grain stock reports for Jan. 3-24.

U. S. Grain in Store and Afloat at Domestic Markets (1,000 bu.)

	Jan 3	Jan. 10	Jan. 19	Jan. 24
Atlantic Coast	1,669	1,659	1,267	759
Gulf Coast	217	531	570	513
Northwestern and Upper Lake	1,040	1,016	1,024	1,037
Lower Lake	6,172	6,080	5,827	5,540
East Central	3,271	3,162	3,619	3,187
West Central Southwestern & Western	2,578	2,425	2,288	2,146
Total current week	14,947	14,873	14,595	13,182
Total year ago	13,294	12,630	13,752	12,060

U. S. Bonded Grain in Store and Afloat at Canadian Markets.

Total Dec. 23	2	2	2	2
Total year ago	0	0	0	0

• SOYBEAN OIL USAGE. Factory production of crude soybean oil in November totaled 154,200,000 lbs. compared with 136,864,000 lbs. in October, reports Bureau of the Census. Production of refined soybean oil in November was 116,910,000 lbs.; in October, 91,632,000 lbs.

Factory consumption of crude soybean oil in November was 126,636,000 lbs.; in October 100,979,000 lbs. Consumption of the refined oil in November was 98,526,000 lbs.; in October 95,915,000 lbs.

Factory and warehouse stocks Nov. 30 totaled: crude, 77,339,000 lbs.; refined, 69,162,000 lbs. This compares with Oct. 31 stocks of 62,351,000 lbs. of crude oil; and 48,725,000 lbs. of refined oil.

• SOYBEAN GLUE. Consumption of soybean glue by the plywood industry in November was 2,924,000 lbs. compared with 3,225,000 lbs. in October, and 1,932,000 lbs. in November 1947, reports Bureau of the Census.

Consumption of phenolic resin glue in November was 2,883,000 lbs. compared with 3,439,000 lbs. in October and 3,637,000 lbs. in November 1947.

Total consumption of all glues by the plywood industry in November was 6,672,000 lbs., compared with

7,481,000 lbs. in October and 6,234,000 lbs. in November 1947.

Stocks of soybean glue totaled 1,977,000 lbs. Nov. 30 compared with 1,502,000 lbs. Oct. 31 and 1,302,000 lbs. Nov. 30, 1947.

• MEAL SHIPMENTS. Freight carloadings of cottonseed and soybean oil meal and cake in the first quarter of 1949 are expected to be 9 percent above those in the same period in 1948, according to estimates compiled by the 13 regional Shippers Advisory Boards. Carloadings of all commodities are expected to show an increase of 2.1 percent in this quarter compared to the first quarter 1948.

• SHORTENING SHIPMENTS. Reported by members of the Institute of Shortening and Edible Oils, Inc., in pounds.

Week ending January 1	3,325,565
Week ending January 8	6,281,243
Week ending January 15	5,488,383
Week ending January 22	4,703,333
Week ending January 29	4,542,397

Grand total of shipments of shortening and edible oils for the calendar year 1948 as reported to the Institute in pounds 2,805,148,000

• SEED IMPORTED. Soybean seed admitted into the U. S. under the federal seed act in 1948 totaled 72,600 lbs. and all came from Canada, reports Production and Marketing Administration.

"I'M MUDDY"
"I'M BURLY"
M
"WE'RE GOOD FOLKS TO KNOW"
USED BAGS
AT LOWEST PRICES
Complete assortments of reconditioned used and surplus bags ready for prompt shipment.
Processed and reconditioned in the foremost modern plant in the Mid-West. Each bag is vacuum cleaned, sorted, graded, mended and inspected before baling ready for shipment.
We have the type and size of bag that you want and can supply you immediately. Write, Wire or Telephone collect for fast service.
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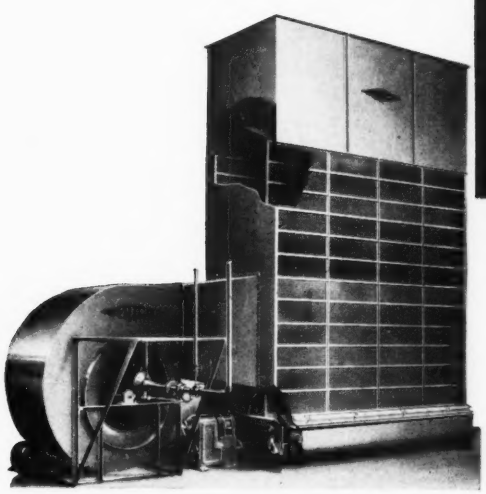
LOW TEMPERATURE DRYING IS NOW AVAILABLE FOR SOYBEANS

Pre-eminent in the field of rice drying, from Louisiana to California, and winning acclaim for their efficient drying of Corn, Wheat, Flax, Peanuts and other cereals, **BERICO Columnar Grain Driers** are ideally suited to the removal of moisture from Soybeans, **without the hazards of high heat.**



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COMPLETE MILL SERVICE

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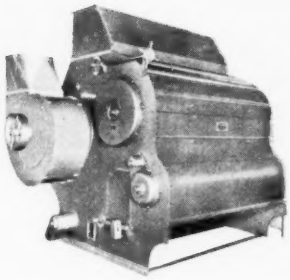
Made in several models to meet small, average and large capacity drying needs, **BERICO** Driers are pre-fabricated, easy to install. Automatic **thermostatic controls** regulate tremendous quantities of **low temperature air,** which are gently forced through free-flowing Drier columns. Special woven **Wire Screens** prevent bean spillage; adjustable, sectional **Feed Gates;** variable speed **Moto-Drive** and hopper **Shutoff Gates** are a few of many exclusive **BERICO** features. Burners furnished for Gas, Oil or Butane.

WRITE OR WIRE FOR DETAILS TODAY . . . NO OBLIGATION

For
ROUGH SCALPING of Soy Beans

The SCALPERATOR

The Carter Scalperator can be profitably applied to the initial cleaning of soybeans to remove coarse and light foreign materials at relatively high capacity. Special controls can be applied to govern the volume of beans handled so as to coordinate with the volume required for drying. Also provides efficient scalping and aspiration of beans going directly to storage and serves as a cold-blasting unit on beans following the dryers. Sizes to fit your capacity needs. Write for catalog folder.



For
REFINED SCALPING of Soy Beans

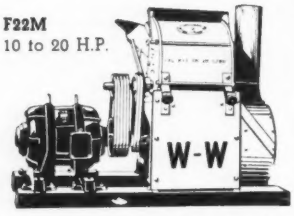
The MILLERATOR

The Carter Millerator is widely used for the screening and aspiration of soy beans before processing. It performs a refined scalping, removing material larger in diameter than the beans being handled and much of the material substantially larger. A second screen removes small seeds and sand. Controlled aspiration is used to remove light foreign materials. The second screen is often used for the removal of splits. Machine is all-metal, easy to control.

HART-CARTER COMPANY 660 Nineteenth Avenue N.E. Minneapolis, Minnesota

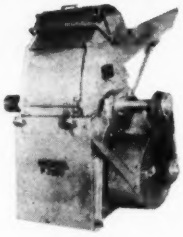
W-W STANDARD MODELS --- OUR "BEST SELLERS"

F22M
10 to 20 H.P.



Feed opening 18" wide and a perfect pulverizer as well as coarse grinder. For small feed plants will quickly pay for itself in low grinding costs.

F25M
25 to 40 H.P.



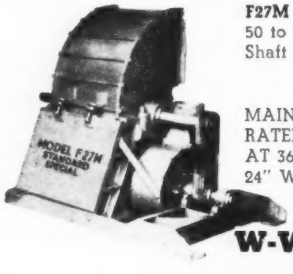
Feed opening 18" wide and with cylinder larger in diameter than F22M. Our most popular model for all types of grinding or pulverizing.

F18-0-18M
25 to 30 H.P.

Same size as F25M but higher grinding chamber and solid hood permitting easy spouting into. Screens change in front quickly and with greater ease.

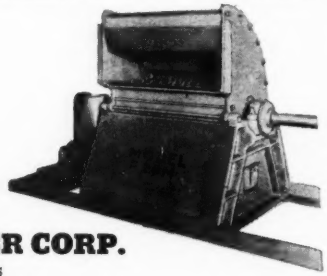
A complete range of sizes and models. Grinders for wet, dry—and for materials of high grease content. No matter what you have to grind there is a W-W model to suit your needs.

W - W MODELS OF TREMENDOUS STRENGTH AND CAPACITY --- BELOW . . .



F27M
50 to 75 H.P.
Shaft 4¾"

MAIN BEARINGS
RATED 3450 LBS.
AT 3600 R.P.M.
24" WIDE



F29M
100 to 150 H.P.
Shaft 4¾"

MAIN BEARINGS
RATED 3450 LBS.
AT 3600 R.P.M.
35" WIDE

W-W GRINDER CORP.
Wichita, Kansas

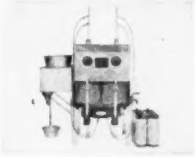
Write for free
W-W CATALOG

"We buy all OUR GRAIN TESTING AND MAINTENANCE EQUIPMENT from SEEDBURO"

That's what Grain, Feed and Seed men have been saying since 1912. Here, "under one roof," will be found a complete stock of grain and seed testing and grading equipment . . . probes, dockage sieves, dockage scales, etc. Besides, they have the satisfaction of dealing with men who have both technical training and practical experience in the Grain and Seed business. Every item is made according to Government standards where specifications have been established . . . every product precision built . . . rigidly inspected during manufacture and before shipment . . . fully guaranteed. The Seedburo Catalog lists not only the products shown on this page, but a host of others. Write for FREE copy today.

Steinlite Moisture Tester

The Steinlite one minute Moisture Tester is EASY TO USE . . . like tuning a radio. The Steinlite operates on the radio frequency impedance principle, and is checked against official oven methods. No technical knowledge necessary. With practice you can make a test in one minute. Used for testing whole grains . . . also finding application in testing tempered grains. Sold on 10-day free trial basis. Price $330.00 F.O.B. Atchison, Kansas.



Brown-Duvel Moisture Tester

The above illustration shows a two compartment tester with the Electric Automatic Shut-off. Price on one, two, four and six compartment testers includes one gallon of Testing Oil, Automatic Oil Measuring and Grain Separating Device, and all necessary accessories. With alcohol testers, a gallon of alcohol is supplied. No. 2 — gas or alcohol heat, $70.00; Electric Heat, $90.00; with Automatic Electric Shut-off, $170.00. Other sizes available.

Portable Electric Blower

Model 8-A — Keep motors, machinery, line shafting and other equipment free from fire hazard dust with a Seedburo Portable Electric Blower. 3/5 H.P. motor. Easily converted into sprayer or industrial vacuum cleaner. Far more powerful than other blowers and durably constructed for many years of trouble free service. Model 8-A is the most popular size for all general cleaning. The G. E. universal motor is mounted on Norma ball bearings. Price $78.65. Attachments extra. Other models available.

Bates Loop End Wire Ties

Bates Wire Ties make bag closing simple, quick and economical. They assure speed and neatness with security and uniformity, at an average cost of less than one mill.

Bates Loop End Wire Ties can be furnished of any gauge wire from 12 to 21, ranging from 2½" to 48 inches in length. All shipments are made in rolls of 5000 ties.

Length	18 Ga.	16 Ga.
6"	$1.00	$1.75
7"	1.10	1.85
8"	1.25	1.95

Minneapolis Bag Truck

25-A-R—This truck has a very long nose, making it particularly useful in handling large, bulky sacks and boxes. Bent plow handles, made of hardwood, rigidly fastened, heavy wrought iron nose with steel strap up the handles, steel plate fastened to nose prevents load from rubbing. Wheels are 7 inches in diameter with durable rubber tires and roller bearings. Handles are 48 inches in length and nose is 9 inches in length. Price $26.10. Other sizes available.

Car Mover

Badger — No. 221 Power King, designed for heavy duty car spotting wherever two or more heavily loaded cars must be moved at one time. All pivotal connections are oversize to minimize wear. Castings are of alloy steel, handle of hardwood. Special rolled steel spurs grip the soft corners of the rail to prevent slipping. Weight 20 pounds. Length 70 inches. Price, $12.50.

Adjustable Bag Holder

The No. 114 Universal Bag Holder is provided with malleable iron jaws, practically unbreakable as it is constructed mainly of soft steel. Quickly adjusted to any height or width of sack, released by a simple movement of the spring controlling the arm. Along the front of the frame is placed a bar for holding a shovel or basket to grade when the bag is filled. Wt. 20 lbs. Price, $9.50.

Randolph "4" Fire Extinguisher

This Carbon Dioxide (CO_2) Fire Extinguisher is scientifically designed for complete safety. The cylinder has a capacity of 4 lbs. CO_2. Special formula shatterproof and pressure-proof steel. Effective against oil, grease, paint, gasoline and electrical fires. Exclusive one hand, thumb trigger operation. Cannot damage or stain food, clothing, woodwork or machinery. Complete with wall bracket, $28.80. Other types of fire extinguishers are also available. Write for complete information.

SEEDBURO EQUIPMENT COMPANY

729 Converse Bldg.

CHICAGO 6, ILLINOIS

G. C. Wareham uses his pencil to illustrate names for the Digest's cartoon character. See his letter below.

"THE LITTLE MAN"

To the Editor:

Here are some suggested names for the "little guy in the corner" of the cartoon on page 13 of the December issue of *The Soybean Digest*:

Soya Podner, Soy Nut, Little Pod, Soyboy, Bean Eye, Beanie, Bean Head, Soya Kid and Beano. —*Lynn H. Farmen, Distillation Products, Inc., Rochester, N. Y.*

To the Editor:

How about the name "Sonny Soy" for your little guy appearing on page 6 of the January Issue of the *Soybean Digest?*—*N. F. Kruse, vice president and technical director, Central Soya Co., Inc., Decatur, Ind.*

To the Editor:

It just breaks my heart to see the little man in your good *Digest* go without a name. So I have decided to offer a few suggestions, which you will find attached.

I don't know whether there are any limits or not, but if there is just take any of the three.—*G. C. Wareham, Hiawatha, Kans.*

Mr. Wareham's suggestions are embodied at the top of the page, in sketches he sent in. See the little character in action in the cartoon on page 6. We definitely are going to name him—and soon—Editor.

WHO SETS THE PRICE?

To the Editor:

I would like to know just who really sets the price on soybeans. This invariably happens. Beans drop off considerably at combining time. Then by the next March they are up from 50c to 75c per bushel. Maybe this is wrong but it seems a logical solution to me. Processors control the price. They store up millions of bushels of beans. They process them during the winter, store their oil, meal and other products. When they are ready to sell these, the price gradually creeps up and they sell these products on the basis of a 50c to 75c increase in bean price.

If I am wrong about this please correct me and set me right. I get so mad when I see the price of beans drop and then gradually ease back up again after all the processing plants all over the country are full. At least that is the way it seems to me.

Why can't we as farmers store these beans? Make the processors come out and really want the beans. The same thing is true of all other grain that is sold on the market. If we would take part of one year's crop, or all of it for that matter, and build storage space for all that we raise, we could do a lot more toward controlling prices than we are doing. That along with some earnest work on the part of such organizations as the American Soybean Association would make us more independent than we are.

I still have my beans from this year and am going to keep them for a while. I may take less than they are now but I don't think so. You will no doubt think I am a crab but I don't think I am too far wrong. If I am set me right and then I will shut up.—*William C. Ratliff, Bluffton, Ind.*

The Soybean Digest has been preaching more farm storage as a means of holding up prices for over 2 years.—Editor.

LETTERS

"DON'T MEAN A THING"

To the Editor:

I don't feel like sending any contribution, due to the fact that we soybean growers in the South don't get any consideration in the market. The Chicago market don't mean a thing to us. We don't even get the $2.18 per bushel. We took from $1.90 to $2.00 until December and there wasn't very many of us that could hold until that time.

Soybeans are worth more money, but Congress is too busy letting the prices of farm machinery go up to do anything for the bean farmer.—*J. W. King, Highland, La.*

THE PRESS

THE TREND TO MARGARINE

Iowa Falls Citizen: There was a headline in last week's daily papers which should be the cause of a lot of real serious consideration on the part of dairy groups in Iowa.

The headline was "OLEO USE UP 50 PERCENT". The story went on to point out that Iowans consumed nearly 15 million pounds of margarine this past year. The total was nearly 5 million pounds ahead of last year.

In view of that situation dairy farmers in this great dairy state should relax their efforts against oleo at least long enough to take a good thorough look at the long-time implications of this trend. Dairy farmers don't like oleo. And they feel that oleo is travelling on a market which they have developed. But be that as it may, oleo is here and here to stay and no doubt continue to grow—regardless of what the dairyman has to say.

And that fact has long time significance to a dairy state such as Iowa which has tied its dairy economy to butterfat. It's not that the dairy cow has been outmoded by vegetable bread spread. Far from it. There's a tremendous demand for dairy products. And there will continue to be. But the outlets will be through whole milk, condensed milk, ice cream, cheese, dry skim milk, etc. And those areas where the dairy business consists of separating the milk, feeding the skim milk to pigs and selling the butterfat to the local creamery are going to find the going increasingly rough.

Massive geared plug valve at natural gas inlet to Phillips Extraction Solvent Plant

meet a *Harvest Hand* for your PHILLIPS EXTRACTION SOLVENTS

Reaping the harvest from fields of natural gas takes a lot of doing. Miles of pipe gather the raw, wet gas. Then huge processing units separate vegetable oil extraction solvents from this gas.

It's a big job — done in a big way by Phillips Petroleum Company. For the world's largest reserves of natural gas are controlled by Phillips. These enormous reserves plus plenty of Phillips knowledge all along the line assure prompt efficient handling of your orders for Phillips 66 Vegetable Oil Extraction Solvents. You'll find Phillips 66 Solvents entirely satisfactory because:

- They are of consistent high quality to minimize your operating problems
- They are clean and water white
- They leave no disagreeable odor or taste

And remember: Phillips technical service is yours for the asking.

Phillips Extraction Solvents	*Typical Boiling Range*
Normal Hexane	151 — 156 F
Methylpentanes	139 — 145 F
Normal Heptane	203 — 209 F

Other Phillips 66 Solvents are available for a variety of uses. Write for information.

PHILLIPS PETROLEUM COMPANY

CHEMICAL PRODUCTS DEPARTMENT

Bartlesville, Oklahoma

Phillips 66 SOLVENTS

SPECIAL SOLVENTS FOR SOYBEAN, COTTONSEED, FLAXSEED, TUNG NUT, RICE BRAN, CORN GERM, CASTOR BEAN, ALFALFA, ANIMAL FAT AND OTHER OIL EXTRACTION INDUSTRIES

For a Low-Boiling Solvent with Maximum Recovery

specify: Esso HEXANE

1

Narrow Boiling Range (Typical 154-161°F.)—Assures complete removal from extracted oil and meal.

2

Lower Vapor Pressure (Typical 4.8 lbs. per sq. in.)—reduces losses in handling, storage and recovery.

3

High Normal Hexane Content (Typical 65.4%)—provides maximum stability.

4

Low non-volatile content (guaranteed to contain less than 28 parts per million non-volatiles) High purity insures against non-recoverable residues.

5

Handled with Modern Equipment and Know-how—Assures purity to your doorstep. Separate equipment, tanks, pumps, boats—used in all solvent handling operations.

6

Readily Available—Can be shipped immediately in tank cars from Baytown, Texas or Bayonne, New Jersey. Also available in tank wagons or transport trucks from Bayonne.

7

Technical Assistance—Our technical staff is always available for consultation. Why not write or call us today?

Esso

PETROLEUM SOLVENTS

SOLD IN: Maine, N. H., Vt., Mass., R. I., Conn., N. Y., Penna., N. J., Del., Md., D. C., Va., W. Va., N. C., S. C., Tenn., Ark., La.

For a Pure, Rigidly Uniform, Economical Solvent...

always specify

Esso HEXANE

ESSO STANDARD OIL COMPANY—Boston, Mass.—New York, N. Y.—Elizabeth, N. J.—Baltimore, Md.—Richmond, Va.—Charleston, West Va.—Charlotte, N. C.—Columbia, S. C.—Memphis, Tenn.—Little Rock, Ark.—New Orleans, La.
ESSO STANDARD OIL COMPANY OF PENNSYLVANIA—Philadelphia, Pa.